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WOMEN IN INDUSTRY IN GREAT BRITAIN DURING THE WAR.

A recent report entitled "Labor, Finance, and the War"¹ represents the results of a study carried on under the direction of the British Association for the Advancement of Science and deals with the effect of the war on the industrial conditions of Great Britain. One chapter is devoted to the subject of the replacement of men by women in industry during the war, down to April, 1916, based upon investigations by a committee made in certain important women-employing trades in several industrial centers.² The conclusions presented in this chapter are briefly summarized below:

THE INCREASE IN THE EMPLOYMENT OF WOMEN.

Over half a million women were added to the ranks of labor between the outbreak of war and the Spring of 1916. Other changes, more important than the mere addition to numbers, have also taken place. Alterations in demand and the shortage of men have brought about transference of women from process to process and from industry to industry, with the result that over half a million women are now directly replacing men.

In July, 1914, the number of occupied women in the United Kingdom was 5,020,000. In mid-April, 1916, the number had risen to 5,490,000. This was an increase in 21 months of war of 470,000. This is about five times the normal peace-time increase, which for such a period would have been only about 94,830.³

This accelerated rate of increase is not due entirely to the recruiting of additional women into industry—i. e., of women entering industry for the first time. Probably fewer women have married; certainly fewer women have retired from industry on marriage, and many former workers who had retired from industry have returned for the period of the war.

The normal increase of occupied females in peace times is not, of course, proportionately distributed over all industries. In the

¹ Labor, Finance, and the War, edited by A. W. Kirkaldy. Published by authority of the Council of the British Association for the Advancement of Science. London (1916).

² The first report of this committee was summarized in the MONTHLY REVIEW for June, 1916, p. 91 et seq.

³ For later figures, see p. 347.

intercensal period 1901-1911 there had been an actual decrease in the number of females in domestic service, agriculture, and clothing. The decline in domestic service and agriculture continued during the war, and there has also been a decline in the number of females in the printing and allied trades, due to scarcity of paper and general slackness in that industry. On the other hand, there has been a fresh influx of women into the clothing trades as a result of increased Government orders for clothing.

In all other groups of industry the war has increased the employment of women. The increase has been greatest in what may be called the "nonindustrial" occupations, banking and finance leading, with an increase of 242.7 per cent as compared with 1914, and transport next, with 168.7 per cent. Among the strictly "industrial" occupations the group of metal industries shows the greatest increase in the employment of females, 88 per cent, with the chemical group closely following, with an increase of 84 per cent over the 1914 figures. The other industrial groups show a relatively low rate of increase, the advance for all "industrial" occupations being only 13.2 per cent.

THE REPLACEMENT OF MEN BY WOMEN.

The number of women replacing men in various occupations is larger than the number (470,000) given above as representing the total increase in the employment of women since the war began, as many women have been transferred from their normal occupations to do men's work. As a result of these two factors it is estimated that in April, 1916, there were 523,000 women directly replacing men and 737,000 replacing men either directly or indirectly. This has involved changes in the relative numbers of men and women engaged in different occupations.

Even in normal times, such changes have taken place to a noticeable degree. A comparative study of the figures in a series of census reports from 1861 to 1911 shows that in most groups of industries, women have been increasing relatively to men. In a few, however, the proportion of men to women has risen. This is true of domestic service, transport, agriculture, metals, paper and printing, and dress.

It is not possible to carry on this comparison into 1916, but the weight of the evidence at hand leads to the belief that in all groups of occupations, with the possible exception of printing, the number of women to each man has increased (or men to women decreased) since the beginning of the war. While in most cases, this is simply a continuation of a tendency already in process before the war, the change in some instances has been remarkably abrupt. This point is brought out in the following table which shows the number of women in different industries who are performing work in substitution of men and the number directly replacing men:

INDUSTRIAL POPULATION, BY SEX, JULY, 1914, AND INCREASE IN NUMBER OF FEMALE EMPLOYEES, FEMALES ON WORK IN SUBSTITUTION OF MALE WORKERS, AND NUMBER OF WOMEN DIRECTLY REPLACING MEN, DECEMBER, 1915, AND APRIL, 1916.¹

Occupational group.	Estimated industrial population, July, 1914.		Increase in females.		Estimated number of females on work in substitution of males.		Number of women directly replacing men.	
	Males.	Females.	December, 1915.	April, 1916.	December, 1915.	April, 1916.	December, 1915.	April, 1916.
Building.....	967,000	7,000	3,600	6,400	6,100	8,800	700	6,500
Mines and quarries.....	1,220,000	9,000	800	2,300	2,700	4,400	1,300	3,100
Metal trades.....	1,642,000	144,000	71,700	126,900	70,300	117,400	16,700	59,200
Chemical trades.....	160,000	40,000	19,400	33,600	9,600	16,200	7,700	15,600
Textile trades.....	608,000	851,000	29,700	27,800	57,600	73,400	23,000	35,500
Clothing.....	286,000	654,000	6,700	11,700	30,400	42,300	13,300	18,800
Food.....	350,000	170,000	31,700	30,900	29,500	35,000	21,300	32,500
Paper and printing.....	301,000	169,000	.....	2,900	22,500	23,600	7,300	11,700
Wood.....	282,000	39,000	7,400	13,200	11,400	17,400	4,600	10,000
Other.....	444,000	96,000	25,400	35,700	27,000	37,400	13,100	24,500
Total industrial occupations	6,300,000	2,180,000	196,500	287,500	267,100	375,900	109,000	217,400
Commercial.....	1,057,000	474,500	.....	181,000	.....	189,000	.....	168,000
Professional.....	174,000	68,500	.....	13,000	.....	16,000	.....	13,000
Banking and finance.....	179,000	9,500	.....	23,000	.....	25,000	.....	21,000
Public entertainments.....	181,000	172,000	.....	14,000	.....	32,000	.....	27,000
Transport.....	1,032,000	9,500	.....	16,000	.....	18,000	.....	17,000
Civil service.....	231,000	63,000	.....	29,000	.....	31,000	.....	29,000
Arsenals, dockyards, etc.....	71,000	2,000	.....	13,000	.....	13,000	.....	13,000
Local government (including teachers).....	477,000	184,000	.....	21,000	.....	37,000	.....	18,000
Total nonindustrial occupations	3,402,000	983,000	.....	310,000	.....	361,000	.....	306,000
Alloccupations.....	9,702,000	3,163,000	.....	597,000	.....	736,900	.....	523,000

¹ The figures in this table are as given in the original report, but in some instances the totals are not the sums of the items given.

² Decrease.

WOMEN AT PRESENT IN NORMAL FEMALE OCCUPATIONS.

Of the women now engaged in wage-earning employment about one in every seven is directly or indirectly replacing a man. The remaining six out of seven are still employed at what is normally regarded as women's occupations. But there has been an enormous amount of redistribution of women within their own occupations.

Thus, the individual woman, though still doing what is generally considered women's work, has in many cases left her own industry and entered another. This has caused a deterioration in the quality of labor available for many occupations. Skilled women, for example, have left laundry work, and to fill the vacancies, charwomen and shop assistants have been engaged. The same difficulty has been met with in textiles and in other industries. Such transferences are uneconomical, because they mean bad work at present and because where a woman's skill lies, as it so often does, in her deftness of touch she may lose it altogether in the heavier work to which she has sometimes transferred herself.

WOMEN NOW ENGAGED IN MEN'S WORK.

There are certain cases in which women are taking up the exact work which the men have left—such as taxicab driving and ticket collecting. There are cases of simple, direct replacement, and being open to the public view give the impression that women generally have stepped into the men's places. Within industry proper, however, the degrees of replacement are many. Economically, the degree of replacement is important as bearing on the position of female labor after the war.

DIRECT AND INDIRECT REPLACEMENT.

Women are taking the place of men, in the proportion of one to one, in many unskilled jobs, such as sweeping yards and on some of the simple machines. In other instances, a number of men are replaced by a greater number of women. These are both cases of direct replacement. But in certain occupations, as some in the printing trades, the woman often replaces, not a man, but a boy or a youth, such as a "reader" to a compositor, who in turn moves up into the man's place. This is indirect replacement, and from the employer's point of view would seem to be the easier kind. For one thing, it meets with less opposition from some trades-unions, and in some instances seems to have been adopted to evade wage difficulties.

COMPLETE REPLACEMENT OF MEN BY WOMEN.

The instances in which women are found to be completely replacing men on skilled work are very few. A few women compositors are employed in the printing trade, and in some firms women are replacing men who, in other firms, are said to be absolutely indispensable on account of their skill. But such instances are rare. Even in clerical work only a few cases were found where women are doing highly specialized or technical work.

This lack of instances, of course, is no proof of women's incapacity to perform the skilled man's work. Women have not had the long training and since the war started there has been no opportunity for them to acquire the necessary experience. Many trade-unions also object to the introduction of women to skilled work. When women are said to be doing "skilled" work, what is meant in nearly all cases is that they are doing one part of the job which a skilled man performs throughout.

When women are found to be replacing men, in the proportion of one to one, the work done is, in nearly every case, semiskilled or unskilled, and more frequently the latter. And it is in the lighter kinds of what is commonly called unskilled work that women are usually found to be completely replacing men—as sweepers, car cleaners, postmen, and workers in the less technical kinds of clerical work.

In some exceptional cases, women are doing really heavy labor. Thus, on the Scottish railways there are female porters. Most of them are women who have long been accustomed to the heavy work of agriculture and fishing, and even they are said to find the strain too great.

PARTIAL REPLACEMENT OF MEN BY WOMEN.

A large proportion of the replacement of men by women has been made possible by some rearrangement of methods which brings the operation within the capacity of the female worker. But the reorganization means that the woman is not completely taking the man's place. Some men may be released, but one at least must be left as supervisor; or, in other cases, two women may be required to do the work formerly done by one man. This simplification is brought about in various ways:

(a) A man's work may be analyzed into its simpler component parts and a woman put on to perform each.

(b) The work of a highly skilled man may be subdivided and a woman set to do the simpler, more routine operations; while the man is engaged all the time on the more skilled operations.

(c) Highly automatic machinery which makes mistakes almost impossible.

These new methods are found throughout industry to-day. But outside certain engineering trades they are not widespread. It is only the most alert employers, or those suffering most from the scarcity of labor, who have altered arrangements to meet the modified conditions. But many employers are aware of new methods which they could and would introduce if they considered the increased need for women to be a permanent condition.

It would seem that, so far as general engineering is concerned, "dilution" has not yet progressed very far. But on shell work the introduction of women in such large numbers has been made possible, partly by giving them the simpler parts of the skilled men's work, and partly by the introduction of new plant of a highly automatic kind.

By such arrangements the partial replacement of men by women has been accomplished. For the most part it seems clear that the woman is rarely doing the actual work the skilled man did previously. She may be doing one simple part of it, or, if automatic machinery is introduced, she may be doing something which no one has done before. In skilled work, in engineering, the woman never does the identical work of the man; in semiskilled she sometimes does, but always under supervision.

At the same time it should be emphasized that the ability shown by women on such work as they have done—much of which is absolutely new to them—indicates that under different conditions they might be able to acquire a high degree of skill and technical expertness.

THE SUCCESS OF WOMEN ON MEN'S WORK.

As the replacement of men by women in large numbers in industry is due to the employer's necessity and not to his choice, it is important to know how far the women have given satisfaction in their new spheres. The employers were therefore asked for their opinion in this matter. The results, however, are not very conclusive. In great part, the opinions came from employers of women who had received only a minimum education. Moreover, in many cases the employers simply voiced the general view, uncorrected by any accurate observations; and, again, it has to be borne in mind that women have not had the same industrial training or viewed their lives from the same industrial standpoint as the men.

With these reservations it is interesting to note that the general opinion bears out the accepted view that women are lacking in the higher industrial qualities but excel in deftness of touch and in continued application to a routine operation.

As regards output, the general conclusion, based on slender evidence, is that on unskilled, light, or repetitive work, women are superior or equal to men, but on heavier, more skilled work their output is less. But many employers believed that with the same experience and training there was no reason why women should not be as valuable producers as men; and some were enthusiastic in their appreciation of women's abilities.

The legal limitations on the hours of labor of women have been modified since the war in the case of certain classes of munitions establishments. Some employers have taken advantage of a misunderstanding on this point to exceed the legal hours in factories for which no exception has been made. But the employment of women at night has been found to be confined almost entirely to work in shell factories and in certain metal trades. In shell factories the work is based on a two-shift system; in other metal works a three-shift system is sometimes in operation.

When women are employed on a night shift they seem usually to work the same hours as men. The general opinion is that women, particularly if married, do not take kindly to night work, and that their output is less by night than by day.

Outside munitions and engineering, night work and overtime by women is found in occupations to which the factory acts do not apply—night work on tramways and railways and excessive overtime in clerical work. Here, again, the general verdict is that women do not stand night work well, and the strain of overtime is too great. In tram cleaning in Glasgow, on which women are employed at night, as many women have left as have remained.

As regards the effect of work on health, it may be pointed out that the fact that the strain of long hours and strenuous exertion has not

had more adverse effects is a proof rather of the temporary zeal of the women under the desire to serve than of their ability to continue such unwonted exertion for a long period in normal times.

THE INCREASED WAGES OF WOMEN.

Several factors have tended to increase the wages of women in industrial employments. In the first place, the Government, under the munitions act, has fixed minimum wages for females in certain classes of munitions establishments.

A second factor has been the influence of the trade-unions in fixing in their agreements with employers the remuneration of women replacing men, the object of the trade-unions being to keep women's wages at a reasonable level in order to protect the men.

Third, in employments outside munitions work and thus not affected by trade-union influence or minimum-wage regulations, the general scarcity of women has led to higher wages. But in such instances they have not attained the munitions minimum level, even in work evidently demanding the same skill. Indeed it has been found in engineering and in the metal trades that where two sets of women within the same shop were working, one on work subject to the minimum-wage conditions, the other not on such work, even although a similar amount of skill was involved, two sets of wage rates were in operation. A double standard of wages as between men and women has long been a well-recognized fact of industry; but a double standard between two sets of women in contact with each other and on work involving similar ability, is a new phenomenon. It is clear that, women being forthcoming at the lower rate, as soon as the legal enforcement of the minimum is withdrawn, there may be a considerable fall in the wages of the women affected, which will probably spread to other industries.

Still another factor tending to increase the wage rates of women is the steady rise in prices since the war began. From July, 1914, to June, 1916, food increased about 59 per cent in price; clothing, 55 per cent; fuel and light, 40 per cent. Taking the whole advance in cost of living as at least 40 per cent, it may be noted that the munitions minimum time rate of £1 (\$4.87) per week for adult women on men's work is equivalent to only 14s. 3d. (\$3.47) in 1914, and the 4½d. (9 cents) per hour rate for women on woman's work is just under 3½d. (6.6 cents) an hour in 1914. The real value of these rates, therefore, is much less than at first appears, and the last one quoted may be compared with the 3d. (6 cents) an hour fixed as minimum rates for certain sweated industries.

On the other hand, war conditions have greatly affected women's wages as related to the family budget. Most working women are members of a family. In many cases at present the father is absent as a soldier. This cuts off the father's earnings, but the army advance of 17s. 6d. (\$4.26) for a married man with wife and child, together

with the earnings of the mother, working, say, at the munitions minimum of £1 (\$4.87) per week, is about sufficient as a rule to keep the small family at the same economic level as before the war, in spite of increased prices and of the father's absence.

Nominal wages have everywhere risen. Because of increased prices it is doubtful how far real wages have risen. But there is a greater correspondence between men's wages and women's wages for the same work. On some railways and tramways, in some metal works and elsewhere, the principle of equal pay for equal work has been accepted, usually through trade-union pressure, but frequently apart from any such influence.

The real earnings of women workers are, of course, the result not only of the wage rate but of energy expended and the hours worked. That some women in munitions are receiving phenomenally high earnings is true. Cases have been met with of earnings of £3, £4, and £5 (\$14.60, \$19.47, and \$24.33) per week. But that these are at all representative seems far from the fact, and such high earnings, moreover, are sometimes due to an expenditure of energy which is of the greatest value to the nation at the present time, but which could not be continued for long periods or under normal circumstances.

COMPARATIVE WAGES OF MEN AND WOMEN.

A survey of wage conditions in the engineering trades, where the question of women's replacing man is most acute, makes clear that, except in very few instances, women are not paid as high rates as, and earn decidedly less per week than men in the same industry. The following table gives some examples of the time rates paid men and women for the same kind of work in the same shop:

EXAMPLE OF TIME RATES OF WAGES PAID TO MEN AND TO WOMEN FOR THE SAME WORK IN THE SAME SHOP.

Kind of work.	Men's rates.	Women's rates.	Remarks.
Shipyards:			
Joiners' laborers.	6½d. (12.7 cents) per hour ..	6½d. (12.7 cents) per hour ..	
Sawmill laborers.	6d. (12.2 cents) per hour ..	6d. (12.2 cents) per hour ..	
Yard laborers.	5½ and 6d. (11.7 and 12.2 cents) per hour.	5½ and 6d. (11.7 and 12.2 cents) per hour.	
Drilling	8d. (16.2 cents) per hour ..	6d. (12.2 cents) per hour ..	
Hammermen's helpers.	6½d. (13.2 cents) per hour ..	5½d. (11.7 cents) per hour ..	
Brass finishing.	10½d. (20.8 cents) per hour ..	6d. (12.2 cents) per hour ..	Women doing simpler operations.
General labor...	6½-9d. (12.7 to 18.3 cents) per hour.	.....do.....	Men doing heavier work.
General engineering shops:			
Inspecting.....	44s. 6d. (\$10.83) per week...	44s. 6d. (\$10.83) per week...	Both rates subject, where under premium bonus, to 20 per cent increase; all 54-hour week.
Grinding.....	40s. 6d. (\$9.85) per week...	36s. 6d. (\$8.88) per week...	
Milling.....	.....do.....	.....do.....	
Drilling.....	38s. 6d. (\$9.37) per week...	.....do.....	
Do.....	6½-8d. (13.2 to 16.2 cents) per hour.	4½d. (9.1 cents) per hour...	
Stoking furnaces.	27s. 6d. (\$6.69) per week...	20s. (\$4.87) per week.....	Same length of week; men doing heavier work.
Wheeling castings.	.....do.....	.....do.....	
Laborers (machine shop).	27s. (\$6.57) per week.....	26s. (\$6.33) per week	54 hours per week; men doing rather heavier work.
Do.....	25-29s. (\$6.08 to \$7.06) per week.	.....do.....	

As regards the comparative earnings of men and women in these trades not much material has been collected. It is safe to conclude, however, that men generally earn more than women. The difference is chiefly marked in the case of skilled labor, as might be expected from the fact that training counts more and women have not yet in many cases passed beyond the apprenticeship period. A few examples are given below of comparative earnings in shell factories where the women employed, taken together, earned probably rather more than the average weekly earnings of all women in shell factories. When the average hours worked are known, the equivalent average time rates are shown also.

COMPARATIVE EARNINGS OF MEN AND WOMEN FOR ONE WEEK IN JUNE, 1916.

Shell factory No.	Class of work.	Men.				Women.			
		Number.	Average number hours worked.	Average earnings.	Average rate per hour.	Number.	Average number hours worked.	Average earnings.	Average rate per hour.
				£. s. d.	d.			£. s. d.	d.
1	4.5-inch shell machinists.....	56	47½	2 15 7 (\$13.52)	14.01 (28.4 cts.)	87	41	1 2 11 (\$5.58)	6.72 (13.6 cts.)
	4.5-inch shell machinists.....	14	57	2 0 6 (\$9.85)	8.53 (17.3 cts.)				
2	6-inch shell machinists.....	30	.....	3 7 7 (\$16.44)	.....	231	.....	1 15 6 (\$8.64)	.....
	6-inch shell laborers.....	34	.....	1 16 6 (\$8.88)	.....			1 4 10 (\$6.04)	.....
3	8-inch shell laborers.....	20	.....	1 19 4 (\$9.57)	.....	35	.....	1 10 11 (\$7.52)	.....

CONDITIONS OF LABOR IN METAL TRADES AS RELATED TO HEALTH OF WOMEN.

No sufficient data are yet available on which to form a reliable opinion of the physical or mental effect of engineering work upon women. It is clear that no very serious consequences have yet emerged, and the period during which the women have been employed is too short for less obvious effects to be measured. There is, however, a considerable body of evidence that the work in handling the heavier classes of shells and some kinds of laboring work tax very much the strength of the women. Assistance of laborers, and the use of block and tackle in lifting shells in and out of the machines, while they have lessened the danger of strain, have not removed it.

The general impression left by the inquiry into the conditions of labor in relation to health is that, with the exception of night hours and overtime, they are considerably better than in many other industries in which women are employed. Doubtless the exceptions have been largely responsible for the raising of the standard in other respects, but there appears to be little doubt that firms engaged in the industry have shown a readiness to concern themselves with the

welfare of their women workers, which has, unfortunately, not been a marked feature in the history of the factory employment of women. This fact, in conjunction with the higher rate of wages paid, can not but react favorably upon the employment of women in factories outside of the engineering trades; whether the effect will be permanent or not is bound up with too many issues of postwar conditions to be determined. But, at least, the example will remain. On the point of hours, one observation suggests itself: Notwithstanding the absence of any definite data, such as statistics of relative output of night and day work, the fact which emerges most clearly from the inquiry into conditions of labor is that night work is ill-suited to women. Given the necessary workers, it seems desirable to introduce generally, at the earliest possible moment, the three-shift, instead of the present two-shift system. Some reduction in earnings would almost certainly follow, and with it probably a protest from the women themselves; but of the beneficial results from such a change there does not appear to be room for serious question.

THE INDUSTRIAL TRAINING OF WOMEN.

The exigencies of war time have raised anew the problem of industrial training. The training of munitions workers in technical schools is being stimulated by the ministry of munitions and the board of education. In some places the schools have undertaken the training of women in such work as boot and shoe making. Such schemes are meant to meet immediate needs. Thus, their aim is to turn out as shortly as possible men and women fit to do some one particular operation.

"But, if we look beyond the present, it is clear we must have a reorganized system of industrial training, turning out men and women of general equipment. Up to now we have had little such training. Apprenticeship within the factory is dead. The technical and evening schools are inadequate."

But given the ideal training system, it is questionable whether it will touch the problem of women's labor except on the fringe. The fact remains that up to the present the majority of women, shaping their lives to other ends than industry, have not desired a long industrial training. And there is little evidence that the war has as yet brought much change in this respect.

SOURCES OF SUPPLY OF FEMALE LABOR.

The additional employment of women has drawn upon all classes and from all geographical areas. Most of them seem to have had previous occupational experience of some kind. Previously unoccupied women have gone mainly into munitions and clerical work.

The women are, for the most part, working women or the wives of working men. The only instances of women from a superior social class are in clerical work, where daughters of professional men are to be found; and in munitions work, which has appealed to their patriotism. In the case of clerical labor many women like the feeling of independence as salary earners and will desire to remain in business after the war.

TRADE-UNIONS AND THE EMPLOYMENT OF WOMEN.

The employment of women to replace men in industrial occupations was opposed by many trade-unions. The immediate causes of such opposition were that the entrance of women constituted a menace to existing rates, lessened the demand for men, and in many occupations was open to physical and moral objections. As a remedy for some of these evils it was suggested that the difficulties could be overcome by the organization of the women. Under normal conditions this has not been easily effected, and the obstacles to be overcome have multiplied under present conditions, when wages are high, and a considerable proportion of women workers are for various reasons in industry only temporarily and indifferent to future conditions. A strong effort was made, with some degree of success, to organize women in separate unions of their own, but the initial success has not been maintained, and notwithstanding all efforts made in this direction there is but one separate union of women of great importance either in membership or power. Some opposition was manifested in the admission of women into men's unions, but with a growing recognition that organized women are less to be feared as competitors than unorganized, more unions have from time to time decided to admit them, but it is only since the war began that certain of these have done so. The Amalgamated Society of Engineers, while not admitting women as members, encourage their entrance into another union, and women have been admitted in the mixed unions on the same conditions as men, except as to contributions and benefits.

THE EMPLOYMENT OF WOMEN AFTER THE WAR.

The question of women in industry after the war is as yet largely a matter of speculation. It is tied up with a mass of other industrial problems. Among the factors which must be considered are the relations between capital and labor, the physical condition of men returning from the war, the policy adopted in disbanding the army, invalidism, and emigration, the new régime in shop organization and management, and the attitude of women themselves. There can be no question as to the prospective demand for labor. There is a possibility that many of the returning soldiers will seek farms at home, or emi-

grate to the colonies, and that many of the women employed during the war period may return to domestic duties, yet the question of future employment of women in industry seems to depend upon one of two things; they must fit themselves for industry, or industry must be so reorganized as to meet their level. A great deal depends upon the action of the trade-unions. There are three important clauses which frequently form a part of the agreements entered into between employers and unions permitting women to enter industry. These are intended to safeguard wages, to reinstate men at the close of the war, and to restrict the employment of women to processes for which they are physically fit. There is a widespread fear on the part of labor that attempts will be made by employers to get behind these guarantees relative to union rules and restrictions, and as widespread determination to accept nothing less than full restoration of all the privileges that have been conceded.

As noted above there is not a large number of women in industrial occupations who were not heretofore employed, and a large proportion of these are employed to replace men by reemployment or by being transferred from other occupations. Many women, especially in munition factories, have entered into industrial employment from patriotism. Others are working to add to the family income, while among others there is a great amount of loyalty to the men whom they are replacing while at the front. These may be willing to return to their former stations and thus aid in the readjustment when the men seek reinstatement in their former places. However, there will necessarily be a considerable number—war widows, dependents, and those who have formed a taste for business—who for various reasons will desire to retain their occupations. Conditions have created an increased amount of female labor capable of replacing skilled men, usually as the result of introducing new machines or a subdivision of processes. These great changes in organization render the problem of reversion to former conditions a complex one. The introduction of new machines has been expensive. Invention has aided production, and employers will not willingly return to former methods, and besides it is suggested that if the subdivision of process continues the women who have become expert on a particular operation may displace skilled men.

The activities of the munition factories will be lessened after the war, and it is almost impossible to believe that women having earned wages comparable with men will be willing to accept the wages formerly paid in what is commonly known as women's occupations.

It is generally conceded in such trades as textiles, printing, and some occupations in transportation, clerical positions, etc., where efficiency is shown that women will be retained after the war.

EXTENSION OF EMPLOYMENT OF WOMEN IN GREAT BRITAIN IN 1916.¹

The data regarding the increase in the employment of women in Great Britain during the war, as presented in the report summarized above, are brought down as late as October, 1916, in the January, 1917, number of the British Labor Gazette. The tabular statement of this increase, together with the text comment of the Gazette, is as follows:

FEMALES EMPLOYED JULY, 1914, INCREASE IN NUMBER EMPLOYED SINCE THAT DATE, AND NUMBER REPORTED AS DIRECTLY REPLACING MEN.

	Estimated number of females employed in July, 1914.	Estimated increase in the number of females employed since July, 1914.		Number of females reported by employers as directly replacing males.	
		July, 1916. ¹	October, 1916.	July, 1916. ¹	October, 1916.
Industrial occupations.....	2, 133, 000	361, 000	393, 000	264, 000	314, 000
Government establishments ²	2, 000	79, 000	117, 000	³ 79, 000	³ 117, 000
Commercial occupations.....	496, 000	240, 000	268, 000	226, 000	264, 000
Professional occupations.....	67, 500	14, 000	15, 000	15, 000	15, 000
Banking and finance.....	9, 500	32, 000	37, 000	31, 000	37, 000
Hotels, public-houses, cinemas, theaters, etc.....	176, 000	20, 000	16, 000	31, 000	30, 000
Agriculture, permanent labor (Great Britain).....	80, 000	20, 000	500	35, 000	20, 000
Transport (not municipal).....	17, 000	35, 000	41, 000	35, 000	41, 000
Civil service.....	66, 000	58, 000	67, 000	³ 41, 000	³ 64, 000
Local government (including teachers and transport workers under municipal authorities).....	184, 000	30, 000	34, 000	26, 000	31, 000
Total.....	3, 231, 000	889, 000	988, 500	783, 000	933, 000

¹ The figures for July, 1916, differ slightly from those previously published, as they have been revised in view of additional information received.

² Arsenal, dockyards, national shell-filling factories, etc.

³ Estimated.

Since the war about 988,500 women, or 30.6 per cent of the numbers employed in July, 1914, have been drawn into the various occupations included in the above table. Women employed in connection with the nursing of soldiers and sailors are not included, and under this head there has been an increase since July, 1914, of some 34,000 women. Allowing for this and for the displacement of women from domestic service and from small workshops and workrooms in the dressmaking trade, which are also excluded from the table, it is estimated that the net increase since July, 1914, in the number of women regularly engaged in occupations outside their own homes is in round figures about 850,000.

In the occupations enumerated in the table there has been an increase since July, 1916, of nearly 100,000, which is roughly one-third of the corresponding increase between April and July. It appears therefore that, taking the whole field of employment, though the number of women is still increasing rapidly, the rate of increase has slackened considerably compared with that of the preceding three months.

As far as substitution is concerned there has been an increase since July, 1916, of 150,000 in the number of women directly replacing men, which is considerably more than half the corresponding figure for April to July. As in the case of the increased employment of women, there has therefore been a check to the rate of expansion, but

¹ Great Britain. Board of Trade Labor Gazette, January, 1917. Pp. 7, 8.

this check is less marked in the case of women acting as substitutes than for the total numbers employed.

The increase in the number of women employed has not been equally divided between the different classes of employment. In industrial occupations there has been an increase of 32,000 between July, 1916, and October, 1916, the corresponding increase for the preceding three months being 83,000. In the chemical and metal trades alone there has been an increase of 42,000 women since July, 1916, so that in all other industries taken together there has been a decrease of 10,000. This is accounted for by a drop in the number of women employed in the textile, clothing, and paper and printing trades. In the clothing trades alone the number of women employed has fallen since July, 1916, by 15,000, or 2.5 per cent of the prewar numbers, exclusive of dressmakers in small workshops; the tailoring trade accounts for 8,000 of this number. In the textile trades the number has fallen by 1,000 since July, 1916, or 0.7 per cent of the numbers employed before the war. This change in the clothing and textile trades is explained in part by a lessened demand for women, due to changes in the extent of Government work and to the increasing economy of the general public; but this does not appear to be the sole explanation. The returns received from employers show that this decrease in the number of women employed has been accompanied by an increasing shortage of women's labor. In July, 1916, 38 per cent of the textile firms and 20 per cent of the clothing firms making returns reported that they were unable to get all the women they required. By October, 1916, the figures had risen to 40 per cent and 21 per cent, respectively. In the paper and printing trades the corresponding figures were 17 per cent in July, 1916, and 19 per cent in October, 1916. It is clear, therefore, that though the demand for women's labor has fallen off somewhat, the supply of women's labor has decreased to a greater extent and that the process of transference from these trades to munition work or other better paid occupations still continues.

CONDITIONS OF WAGE-EARNING WOMEN AND GIRLS IN CONNECTICUT.

Under the direction of the Connecticut State Bureau of Labor a study was made of the conditions of employment of women and girls in laundries, hotels, restaurants, candy and drug stores, telephone exchanges, and in munition plants, continuing the work undertaken by the bureau of labor in 1913 and 1914.¹ In the report of this investigation, issued under date of January 5, 1917,² the author opens with a general discussion of labor dissatisfaction existing among women in the industries mentioned during the years 1915 and 1916, pointing out that the conditions which were regarded as standard in 1913 and 1914 gave way to new and unsettled conditions in the labor world; that the increase in the cost of food, clothing, and housing as compared with previous years had an important effect upon the conditions and lives of wage-earning women and girls, making it hard for them to maintain the health and vigor so necessary to an efficient and satisfied worker, especially in view of the fact that their wages did not increase proportionately; that the increased output of munition factories was a determining factor in limiting the supply of

¹ For summary of earlier report, see MONTHLY REVIEW for September, 1915, p. 11 et seq.

² Connecticut. Report of the Bureau of Labor on the Conditions of Wage Earning Women and Girls. New Haven, 1916. 140 pp.

labor in other industries in the State; and that child labor appears to have decreased in the more arduous occupations and to have slightly increased in less exacting work. It is particularly noted that the laundries, and restaurants, hotels, and kindred industries have been seriously affected by deflection of labor to other industries, notably munition plants, and by help leaving for other communities where better wages were offered. This scarcity of labor, it is stated, resulted in poor service with little or no reduction in prices, so that the ultimate consumer as well as the employer has been forced to bear the inconvenience.

Although women seem to have been employed for years in the Connecticut munition plants, the report does not indicate to what extent the number has increased, if at all, in recent years. Many have sought employment there in the hope of receiving better wages, but it is pointed out that when averaged up wages during 1916 were not very much above those in other lines of work. In one plant skilled female workers received a minimum of \$13.50 per week; unskilled, \$9.75. In another plant the minimum was \$9. In this plant, in a force of 17,000 to 18,000 employees in August, 1916, 2,717 were women and only 125 of these worked at night. Another concern employing over 12,000 workers had 2,755 women, of whom 86 were under 16 years of age. Its lowest wage was \$2.50 per day and the highest \$5.

Favorable comment is made upon the "careful regard for the well-being of the employee which is constantly exercised in these industries. * * * Safety appliances have been well looked after by the factory inspectors and as far as possible the dangers lurking in the handling of high explosives, their ingredients, and the inhaling of the fumes of acids have been minimized." Hospitals and rest rooms have long been provided for workers and since the war began these facilities have been improved. In one factory there was in December, 1916, an enrollment of 611 in 36 classes in English. One munition plant has invested over \$2,000,000 in trying to provide suitable housing for its employees, it is stated.

After a brief résumé of conditions in department and 5 and 10 cent stores which were more fully studied two years earlier, the report takes up in detail three industries, or groups of industries, studied. The statistical data given concerning each of these form perhaps the most valuable part of the report. The first to be considered is the laundry industry, which, in Connecticut, employs 2,408 women and girls, of whom 85.5 per cent were foreign-born. Polish women make up the largest race group, forming 24 per cent of the total. The laundry is not a place for the very young, and only about 2 per cent are under 18, while 8 per cent are 18 but under 20. There is a curious

massing of workers in the years 20 to 26, inclusive, 55 per cent of the total number being found here. The wage grouping is as follows:

Weekly wage:	Per cent of total receiving this wage.
\$4 but under \$6.....	20. 81
\$6 but under \$7.....	12. 21
\$7 but under \$8.....	29. 73
\$8 but under \$9.....	14. 58
\$9 but under \$10.....	12. 62
\$10 but under \$12.....	8. 43
\$12 or over.....	1. 62

The proportion of women in the industry who are or have been married is high, 47 per cent being single, 42 per cent married, and 11 per cent widowed or divorced. Of the entire number who had been married only 81, or 6 per cent, were without children, 1,196 having from 1 to 7 children apiece. Of those with children, 43 per cent were the sole support of their families, while 57 per cent were responsible for only part of the support. The married woman working for pleasure or pin money does not appear in this industry.

The employees of hotels, restaurants, dining rooms, lunch rooms, candy and lunch stores, and bakeries are studied together. Long hours and night work are the two most objectionable conditions of their work, the first affecting many more than the second. Waiters and other workers, especially cooks and kitchen helpers, may be on duty 75, 80, or even 90 hours a week. Night work for women is not common, and is found more often in the smaller restaurants than in hotels. The women and girls employed in these industries numbered 4,432, of whom something over one-fifth were Americans, 19 per cent were Polish, 13 per cent Irish, and the rest scattered among 11 race groups. The age level was distinctly lower than in laundry work, 16 per cent of the workers being under 18, 11 per cent 18 but under 20, and only 35 per cent being 30 or over. This age grouping is particularly significant in view of the long hours which characterize the occupations in this group of industries.

The wage grouping was as follows:

Weekly wage:	Per cent of total receiving this wage.
Under \$6.....	27. 55
\$6 but under \$7.....	18. 10
\$7 but under \$8.....	17. 40
\$8 but under \$9.....	10. 83
\$9 but under \$10.....	7. 20
\$10 but under \$12.....	10. 79
\$12 and over.....	8. 11

This shows nearly half (45.65 per cent) receiving less than \$7, as against 33 per cent of the laundry workers in this wage group. On

the other hand, nearly one-fifth (18.9 per cent) of these workers make \$10 or over per week against 10 per cent of the laundry workers.

The proportion of married women, while not equal to that among the laundry workers, is still large, the single forming 66.4 per cent of the whole group, the married 23.4, and the widowed and divorced 10.1. Of those who had been married, 1,067, or 72 per cent, had children. Nearly one-third (32 per cent) of these women were the sole support of their families, while the remainder partly supported them. The large proportion married and the proportion who are the sole support of their families are especially noteworthy in view of the relatively low age level of the group.

The employees of candy, candy and ice cream, candy and drug stores, and candy and miscellaneous stores are grouped together, the general nature of their work being the same. In 1915-16 such stores in Connecticut employed 1,890 women and girls. Americans largely predominate among these employees, forming 44 per cent of the total; the Irish come next with 27 per cent, and no other nationality forms as much as 10 per cent. The Polish women who formed so important a part of the two other industrial groups studied do not appear here at all. The age level is lower than among the laundry or hotel and restaurant workers, 20 per cent being under 18, 11 per cent 18 but under 20, and 33 per cent 30 or over. Almost half (48.4 per cent) are under 24. "On the whole, the wages in this class of work are good," states the report, a conclusion which seems justified by the fact that none are reported as receiving less than \$6 a week, while nearly one-fifth (18 per cent) are receiving \$15 or over.

The wage grouping was as follows:

Weekly wage:	Per cent of total receiving this wage.
\$6 but under \$7.....	7.99
\$7 but under \$8.....	9.84
\$8 but under \$9.....	16.40
\$9 but under \$10.....	10.58
\$10 but under \$12.....	18.94
\$12 and over.....	36.25

The proportion receiving \$12 or over is more than four times as large as among the hotel and restaurant workers, while among the laundry workers this wage group was negligible, amounting to less than 2 per cent of the whole number studied.

The proportion of married women sinks to more moderate dimensions here, the single forming 87.7 per cent of the whole group, the married 8.7 per cent, and the widowed and divorced 3.6 per cent. Of the 232 women who had been married, 212 had from one to three children apiece. Of these women 66 were the sole support of their families, while 146 were partly supporting them.

The report includes also a review of conditions in the telephone service, but gives no statistical data concerning its employees. This industry was fully studied two years earlier, and the present report merely notes an increase in the rates of pay and a continuation and extension of the welfare work then under way.

The final chapter is devoted to the employment of women at night in Connecticut. At present there is very little legal restriction upon such employment, and women work at night not only in hotels and restaurants but in factories and in the telegraph and telephone services. There is, however, a sentiment against their employment at night, and in hotels and restaurants especially, there is a tendency to supersede them gradually by men as far as this is possible. The present scarcity of male help, however, delays this process. In the factories which employ women at night the investigator believes that conditions, moral and sanitary, are well looked after, and that such work is rendered as little harmful as may be. In considering the probability that a law will soon be passed forbidding night work for women, a plea is made for those employed at night by the telegraph and telephone companies. These are all women of experience and intelligence:

Many of these women have given 15, 20, and 25 years of their services in work of various kinds. It may be said as a matter of cold fact that the zenith of their usefulness has been reached. They could be supervisors or occupy positions of direction in other than actual supervision, but it would be almost impossible to place them to-day when youth is a requisite of nearly every woman employee hired in work which would give them a compensation such as they are now receiving. * * *. The number of positions open to women in this kind of work is always restricted, no matter what the demand for labor. * * *. Preventing their working at night means not only taking away from them an assured weekly or yearly income, but in nearly every case the taking away the means of support of some other dependent individual.

The report closes with a number of recommendations, among which may be noted recommendations that a seat should be placed before every machine operated by a woman, that better drinking water and better toilet facilities should be furnished; that a seaside sanitarium should be established for those predisposed to tuberculosis; that vocational and continuation schools should be provided; and that a State reformatory for women should be established.

DOMESTIC SERVICE: ITS ADVANTAGES AND DRAWBACKS AS A WAGE-EARNING OCCUPATION.

The most conspicuous problem connected with domestic service is that there should be any problem at all. Given thousands of women anxiously looking for household help and other thousands anxiously looking for work, why does not the law of supply and demand assert

itself and bring the two groups together? This was the question the commission on household employment appointed by the Young Women's Christian Association set itself to solve. There appears to be a practical boycott against household employment. Why should it exist? "Why are intelligent, ambitious, wage-earning young women choosing the factory, the office, the schoolroom, the store, rather than domestic employment?" The commission decided that the best way to find out was to ask them.

Accordingly, opinions were obtained from 299 self-supporting young women—112 in household work, 137 in factories, 15 in department stores, 35 in offices. They were found in 17 cities scattered throughout the Union, and the commission believes that the deductions drawn from these opinions are more or less applicable to all parts of the United States in families having one or two white employees. A discussion of these opinions and of their import was presented to the association at its fifth national convention, held in Los Angeles, in 1915, and was afterwards published as a pamphlet.¹

The balance sheet of household employment, according to those engaged in it, stood as follows:

ADVANTAGES.

1. Health.
2. Wages.
3. Preparation for own home after marriage.

DISADVANTAGES.

1. Long and uncertain hours.
2. No opportunity for social life and self-development.
3. Servile treatment.
4. Social stigma.

Of the advantages the higher wages were most frequently cited, those questioned seeming to have a keen appreciation of real as against nominal earnings, and feeling that on that basis they could make more at housework than in a factory. Health was less frequently mentioned, and preparation for home-making least of all. Of the drawbacks, hours seemed to be the basic difficulty. The lack of any absolutely free time, belonging of right to the worker, lay at the bottom of most of the complaints. This grievance was the more strongly felt because it was believed to be unnecessary. One of the questions asked was: "Do you think housework could be arranged so that a maid could have regular hours of work?" There was almost universal agreement that it could. The changes suggested were not extreme.

The answers are given in various forms, but after restating in like terms there proved to be a great similarity in the suggestions:

First. A period of rest and perfect freedom during the afternoon, averaging two hours.

Second. One afternoon each week, not returning for evening meal.

¹ First Report of the Commission on Household Employment to the Fifth National Convention of the Young Women's Christian Associations of the United States, Los Angeles, May 5 to 11, 1915. 34 pp. National Board of the Young Women's Christian Association, 600 Lexington Avenue, New York City.

Third. A part of Sunday.

Fourth. Certain or all evenings, beginning at an hour which will make possible participation in evening affairs.

Great emphasis was laid on the necessity of having meals on time as a requisite for regular hours. As nearly as could be estimated from the schedules given a 10½-hour day (including mealtime) seemed to the young women to be a fair standard. There seems to be no objection to the amount of work, merely to the unregulated periods of time over which the work is spread.

The headings "Servile treatment" and "Social stigma" included a variety of matters. There were complaints of poor accommodations and inconsiderate treatment, of constant dependence upon the whim of the employer, and of the attitude of society in general toward the domestic worker. There appeared to be a deeply rooted feeling that housework, when done for pay, is not considered honorable.

For the most part the girls agreed that they would not advise other girls to enter domestic service. An exception was found in a group of foreign girls who "appreciate having found a home in a foreign country. They would all unhesitatingly advise their friends to take up domestic service, for, in spite of certain drawbacks, 'It is the very best occupation for foreign girls.'"

From the standpoint of the factory girls, the advantages of the two kinds of work stood as follows:

ADVANTAGES OF FACTORY WORK.

1. Time.
2. Living at home.
3. Social life and recreation.
4. Opportunity for marriage.
5. Opportunity for self-development.
6. Social standing.

ADVANTAGES OF HOUSEHOLD WORK.

1. Wages.
2. Health.
3. Preparation for own home after marriage.

As to time, the girls were emphatic in pointing out the advantages of the factory worker. The answers from the entire 137 indicate that the factory girl averages 9 hours a day of work, and that in addition to Sundays and evenings the majority of the girls have a half holiday Saturday. In their opinion a domestic employee works 12.3 hours a day, is at her place of employment every day in the week, and is granted the privilege of having a fraction over half a day off each week. The average wage of a factory employee, these girls thought, is \$7.58 a week; she spends \$4.60 a week for room, board, and laundry, and has clear \$2.98. It is their opinion that the wage per week of a girl in domestic service averages \$4.52. As the domestic employee has no expense for board, room, or laundry, this must be compared with the \$2.98 of a factory girl.

On the question of living at home, there was a divergence of opinion, 17 girls thinking it better to live at the place of employment "if you are in domestic service, because you have to work early and late and it is dangerous to be on the street early in the

morning and late at night." Among the others the preference for living at home was strong. The advantage of a change of surroundings was mentioned, together with the opportunity for more varied interests, but the strongest reason seemed to be family feeling. It is best for a girl to live at home because—

She is with people who take more of an interest in what friends she makes and where she goes.

She has the protection of home and the ones that love her.

A mother can give her advice when she should happen to go astray and bring her right again.

A girl has more privileges in her own home, and she can help her own family.

Nothing can take the place of your own home, with a mother, father, brothers, and sisters.

One worker brought out an important consideration when she said: "From my point of view, a young girl who lives away from home continually grows away from her home as well."

As to social life and recreation, there was almost unanimous agreement that the factory girl has the advantage because of the definite and shorter number of hours she works. Her evenings are free, and she can "join a club or church league, which will not cost her very much," or she can take up special courses of study, or have friends in at home, or go out to entertainments.

On the question of health there was greater diversity of opinion. Twenty girls believed that the factory offered the better chance to keep in good health, 6 thought the opportunities equal in the two callings, and 81 thought housework had the advantage in this respect.

As to marriage, 89 thought the factory girl had the better chance to marry, owing to a freer social life and the mingling with men at her work; 16 thought opportunities were equal in the two callings, and 9 thought the domestic had the better opportunity. Questioned as to which would make the better wife, the majority thought the domestic would, because her work had trained her in managing household affairs. A small but energetic minority maintained the superiority of the factory girl on the ground that a good wife must be something more than a housekeeper, and that the factory girl's wider experience made her more of a companion for her husband, while she could easily gain what extra knowledge of housekeeping she needed. "They are of the opinion that the majority of girls learn something about housekeeping at home, and if not they have opportunity and time to learn it at night school."

There was emphatic agreement as to the advantage of factory work in regard to the social standing of the worker. A factory girl has a higher social standing, they thought, because she has time to improve herself, to attend clubs, parties, classes, dances; she mingles with people on an equal footing; she is independent and ambitious.

This agrees with what the domestic workers thought of their own relative status, except that the latter could see no reason for their inferior position, while the factory girls ascribe it "to the fact that the domestic worker has no time for social life and education, no opportunity to exercise freedom and self-direction."

The group of store employees was small, but represented every type of store worker from bundle wrapper to manager of a department. The office employees were selected to represent the same economic standing as that of the household workers. These two groups took practically the same view as the factory girls of the advantages and disadvantages of domestic service, except that they were even more positive than the latter that while the training of the household worker might fit her to be a good housekeeper it did not prepare her to be a companion to her husband after marriage.

In order further to obtain the impartial judgment of these industrial workers as to the merits of domestic service as compared with their own particular kind of work, they were asked to state what advice as to choice of employment they would give to an inquiring friend in whom they were much interested.

Of the 149 girls who answered this question, 114 would advise their sisters to enter the store, office, or factory, as the case might be; 23 would advise household employment; 12 would leave the choice to their sisters, since there are advantages and disadvantages in all occupations. A curious thing is noticeable in the reasoning which the girls use in recommending household employment. They seem to choose an altogether new basis for their advice. Almost no mention is made of the advantages which they admitted belonged to household employment, namely, health, wages, preparation for the duties of a wife. Their basis for advising household employment is, "If she has no home or parents to look after her." * * * The fact that domestic service pays well, at least gives shelter, would make it a refuge for the young, unskilled orphan. It would hardly be possible, however, to build up an occupation on the hope that there would be an unlimited supply of orphans who needed a home; neither is it patent that the girls who answered in this fashion would make efficient household workers.

Summing up the whole situation the commission finds that household employment carries within itself no objectionable features, is healthful, and pays well, but that it is performed under conditions which prevent self-direction and self-development of personal life. Of these conditions the most important and that on which the others depend is the long and irregular hours. Until this is altered the supply of household workers will be insufficient.

The report closes with a recommendation that the commission be continued, and that efforts be made both to enlist the interest of employers in a further study of household employment from the point of view of wage-earners, and to secure their cooperation in practical experiments based on such a study.

A second bulletin issued by the commission deals with an inquiry among the vocational educators of the country to learn their attitude

toward household work as a wage-earning occupation.¹ The first steps showed that they did not hold it in high esteem.

When questioned as to the occupations which they would recommend girls to prepare for, or as to the occupations for which they are at present offering training, only one educator spontaneously includes household employment (household helpers) in his list. Household employment seems to be distinctly out of vogue. A woman of national reputation succinctly remarks: "After six years of investigation of women in industry I do not know what occupations to advise. I know what occupations I should not advise." She leaves no doubt as to the prominent place household employment takes in this latter category.

Like the working women questioned in the first study, the educators recognized that wages in domestic service are higher than in many of the factory and lower office positions; that the work is probably more healthful; that it may be a valuable means of training for a household of one's own; and that the opportunity for steady employment is unexcelled; nevertheless, they were guiding the girls into almost any other kind of work and neglecting this altogether. A search for their reasons showed that the objections voiced by the girls themselves were at the basis of their attitude. The absolute control of the worker's whole time, the unstandardized and unsystematized character of the work, and the social drawbacks involved in taking it up lead them to feel that they prefer not to direct girls into this occupation. At the same time they see no objections to the work itself:

The objection is to the monopoly which the occupation exerts over the girl's whole life. The work does not injure her mentally or physically, but the occupation is so conducted that it overshadows her whole life and prevents her from taking her normal place among her family, her friends, and in the community. They object to the hours which prevent a girl from living at home, from having the care and supervision of parents, from enjoying recreation in the same manner and at the same time as her friends, from entertaining in a normal fashion, from self-development along the line of personal choice. They object to the feudalistic relations between employer and employee, which make it appear to the world as if the girl has no freedom except at the sufferance of the employer, so that her self-respect is bruised and her social standing in her own world is lowered. The abnormality of it is overpowering.

As to the changes which would transform housework into a desirable occupation for which to train girls, a number of opinions are given varying in detail but all agreeing that the basic change must be the regulation of hours. It is not apparent that a household can be run with the fidelity to time schedule of a factory and still retain its character as a home, but somehow the work must be so systematized that the worker can have definite and fixed hours beyond which she is absolutely free. Many think that as a part of this change the helper should live outside of the employer's home, receiving all her wages in money instead of having a part in food and lodging as

¹ The Road to Trained Service in the Household. Commission on Household Employment, Bulletin No. 2. 13 pp. National Board of the Young Women's Christian Associations, 600 Lexington Avenue, New York City.

at present. This, however, is a detail; the hours are the root of the difficulty, and until they have been brought under regulation, until the idea that the worker's whole time, whether she is employed or not, belongs to her employer is relinquished, the household can not hope to compete for workers on equal terms with the factory, the store, and the office.

The commission has issued a third bulletin,¹ which contains a brief and readable discussion of the advantages of industrial employment in the matters of hours, definite work, chance for personal life, and social standing.

EMPLOYMENT OF WOMEN AND BOYS IN MUNITION WORKS IN ITALY.²

The *Bollettino dell' Ufficio del Lavoro* (Journal of the Italian Labor Department) for October 16, 1916, publishes the text of two circulars issued by the undersecretary for arms and munitions with regard to the employment of women in munition factories. The first of these circulars is dated August 23, and is addressed to various officials and administrative bodies. Having recapitulated numerous previous circulars as being based on a desire to promote the employment of women at work which they are capable of performing, so as to release men for work requiring great strength or high skill, and also to find work and wages for the wives and other dependents of men called to the colors, the document proceeds to state that the results already attained, though considerable, are not sufficient. "More must be done by following the examples set in Great Britain and in France."

In Italy (and particularly in southern Italy and Sicily) the employment of women in munition factories has met with passive resistance in some districts on the part of employers, in others on the part of workmen, or, owing to prejudice and traditional notions, on the part of the women themselves, whose aversion has been unmistakable and persistent.

In France, where the question of staffs of male workers is even more pressing than it is in Italy, the undersecretary of state for arms and munitions has ordered (in a circular, dated July 20, 1916) that after August 20, with a preliminary eight days' notice, all the conscripted workmen, without any exceptions, who are skilled merely in work on which they can be, and should be, replaced by women, are to be withdrawn. Attached to this order is a list of all the occupations to which the new provisions are applicable. Of course, the managers and foremen are to be kept on as conscripted workpeople.

In Italy, for reasons stated above, it is not possible to contemplate an immediate and general application of a measure analogous to the French order. Yet it is the intention of the department of arms and munitions that such a measure shall be adopted gradually, with local modifications, as need arises.

The district committees on industrial mobilization (assisted by the various provincial commissions for testing munitions) are therefore to compile exact and complete

¹ What a Factory can Teach a Housewife. Commission on Household Employment, Bulletin No. 3. — pp. National Board of the Young Women's Christian Association, 600 Lexington Avenue, New York City.

² From British Board of Trade Labor Gazette, December, 1916, pp. 452-453.

lists of the factories and the departments of factories devoted to the making of fuses, parts of fuses, bombs, diaphragms (for field telephones), and projectiles of small caliber (up to 87 mm.). Definite instructions are to be given by the aforesaid authorities to the managers of these factories for the purpose of insuring that by October 31 of this year 50 per cent of the men of military age, whether discharged men or men allocated to factory work, shall be replaced by as many women or boys. The latter are to be recruited specially from the pupils of secondary schools, to whom an appeal was recently made in a circular issued by the minister of education.

Moreover, the factory managers are to be instructed that by December 31 the percentage must be brought up to 80.

In regard to the actual numbers corresponding to the percentages, special modifications may be made in those districts where the girls and women are least fitted for, and least disposed toward, industrial employment. In regard to such modifications, special reports must be submitted for approval to the ministry.

It is anticipated that as a result of such instructions there will be available, at the turn of the year, a large number of men who may be utilizable for work on shells of medium and large caliber and on such other work as can not be done by women and girls. Furthermore, it may be possible to restore a considerable number of men to the fighting ranks.

The second circular published in the *Bollettino* is dated September 28, and is devoted mainly to urging the various authorities to renewed and increased activity, in order to promote the employment of women. Sufficient progress, it is asserted, has not been made, much more being absolutely necessary in order to secure the safety of the country and to avoid unnecessary bloodshed.

Much credit is due to women for what they have done. But it is by no means enough. Out of 355,349 persons employed in 882 munition works, only 45,628, or 13 per cent, are women.

It is necessary to remove the obstacles to the larger employment of women. What is required is a convinced, intelligent, widespread and vigorous propaganda that will destroy the preconceptions of manufacturers, the opposition of trade-unions, and inertia of women—such inertia being, fortunately, restricted to one locality.

For such a propaganda much help would be afforded by an exhibition of schemes recently sanctioned for the moral and material benefit of working women. Emphasis must be laid on the fact that the employment of women is not a mere artifice to get work done at low wages for the sole profit of the employer.

The recruitment of women for industrial work will be facilitated in proportion to the provision of means to safeguard their health and well-being, particularly in those transitory cases where it is necessary, owing to the exigencies of the time, to employ women on night work.

Compliance with the laws made to insure decency, health, and safety from accidents—important as it is in normal times—is now more than ever necessary.

The circular adds:

It may be affirmed that as soon as manufacturers show plenty of initiative and of adaptiveness for this new type of labor and cease to cherish preconceived opinions as to the inferiority of women's work and as to the low wages that it merits, the labor of women will respond splendidly to the utmost variety of demands. This is true not merely as to the highly satisfactory results of women's work in the making of cartridges, fuses, and boxes for shells, but also in actual work on the shells themselves and on their fittings. In various workshops in Liguria and Lombardy women are intrusted not only with making shells of small caliber, but also with making those

of 102 mm., 105 mm., and even those of 149 mm. Thus it is evident that the field for utilizing the working powers of women is very wide, and that the very best results may be attained by admitting them to it. * * * The department expects to see, month by month, a marked and continuous increase in the percentage of women employed in the workshops devoted to the manufacture of the weapons necessary for the attainment of victory.

COMPULSORY ARBITRATION AND MINIMUM WAGE IN MUNITIONS INDUSTRY IN FRANCE.

As a result of strikes in several French munition factories in the Paris district following upon demands for increased wages, the French minister of munitions, on January 17, 1917, issued a report and decree providing for the establishment of permanent boards of conciliation and arbitration composed of equal numbers of representatives of employers and of workers, for the immediate investigation and adjustment of collective disputes.

Immediately upon notice of a dispute the establishment is placed under military control and any cessation of work is prohibited under severe penalties. The decree provides for an immediate hearing and if conciliation fails, a decision of the board as arbitrator within 24 hours after the hearing. In the case of the failure of the board to agree a referee must be appointed without delay and a decision rendered within 24 hours after a hearing. In case of difficulty in agreeing upon appointment of a referee, the minister of munitions may himself designate a referee or may himself render a decision upon the matters in dispute. The decision of the arbitration board or of the referee becomes effective immediately upon its approval by the minister of munitions, and if any employer or the employees refuse to comply with the decision the establishment or the employees shall be immediately placed under military control.

The text of the minister's report and decree follows:

REPORT OF THE MINISTER OF MUNITIONS UPON THE REGULATION OF DISPUTES IN MUNITIONS FACTORIES.

MR. PRESIDENT:

The suspensions of work which have occurred lately in several establishments engaged in the manufacture of war materials in the Paris district have caused some uneasiness among the public and the armies.

The effect, however, which some isolated movements of this kind might have upon the results of the immense work now in actual progress in all France certainly should not be exaggerated. It is only fair to give due credit for the persevering and regular efforts with which male and female workers in factories of war materials have performed their work day and night, often working long hours overtime and under aggravating and unwonted conditions. It is equally fair to recognize that the increased cost of living has caused special hardship to this class of workers, because frequently their new employment has torn them from their family life and former conditions of living.

Nevertheless, it is inadmissible that possible disputes between this class of workers and their employers should be accompanied by a suspension of work caused either by

acts of the employer or by those of the workmen, since such a suspension of work, however limited, always has the effect of reducing the maximum output of the factories.

In such cases it is therefore legitimate, in the national interest, to impose on both parties a procedure of compulsory conciliation and arbitration which, while leaving to the parties to the dispute full opportunity for asserting and defending their case, insures the indispensable continuity of the production of war materials.

With this object in view, the draft of the decree, which I have the honor to submit, establishes in industrial districts, permanent boards of conciliation and arbitration, recourse to which shall be obligatory in case of collective disputes between employers and workmen in the manufacture of armaments, munitions, and war materials.

The composition of these boards and the regulations decreed for their functions seem to give to both parties full guaranties that their cause will be properly represented and sustained, and consequently makes any suspension of work under these conditions without object and unlawful. Lastly, in reserving to the minister of munitions the right of approval of the decisions of the boards (without which the decisions do not become effective), and in certain cases, even the final decision, the procedure provided in the proposed decree guarantees to the interested parties that the decision rendered will be prompted only by justice and by the predominant anxiety for the national defense.

Since all these guaranties are given to the two parties, it is out of the question that anybody could object to the application by the authorities responsible for the national defense, of the powers vested in them by the law on military requisition, to that party which refuses to submit to the above procedure or to accept the arbitral decision—it always being understood that recourse to these powers will be exercised with full regard to law and equity.

ALBERT THOMAS,

The Minister of Munitions (Le ministre de l'armement et des fabrications de guerre).

TEXT OF DECREE OF MINISTER OF MUNITIONS OF JANUARY 17, 1917, FOR REGULATION OF DISPUTES IN MUNITIONS FACTORIES.

ARTICLE 1. Employers, workmen, and salaried persons in private establishments, factories, and enterprises engaged in the manufacture of armaments, munitions, and war materials, shall, in case of a dispute of a collective nature relating to conditions of labor, not be permitted to break the contract of labor, nor to stop or cease work before having submitted the questions in dispute to conciliation and arbitration, such as are provided for in the following articles.

ART. 2. There shall be established under the supervision of the minister of munitions, in such districts as shall be determined by him for this purpose, a permanent board of conciliation and arbitration composed of an equal number of representatives of employers and workers, but not less than two of each class. These representatives are to be exempt from military duty.

ART. 3. The collective differences shall be stated by a declaration made to the controller of labor, either by the employer or his representative or by a workman bearing a written authorization, free of stamp duty, signed by at least 20 other workmen.

ART. 4. The controller of labor shall notify the board of conciliation and arbitration, provided for in article 2, and advise the minister of munitions, who shall designate a representative of his office to appear before the committee for the hearing.

The committee shall assemble at the local mayor's office without undue delay, hear the parties one or more times, and if terms of conciliation are not reached by them, it shall issue, within 24 hours after the last hearing its decision as arbitrator which shall be placed on record and signed by each member of the committee.

ART. 5. If a unanimous decision can not be rendered by the arbitrators, they shall designate one or more referees. If an agreement is not reached as to this appoint-

ment, the minister of munitions has the authority either to designate referees or to referee the dispute himself.

ART. 6. The referee or referees summoned without delay by the controller of labor, shall hear the arbitrators and the parties, and within 24 hours after the hearing shall render their decision in a written report.

The decision of the arbitration board provided for in articles 4 and 5 shall be in force as soon as it has been officially approved by the minister of munitions or by his order, and been posted in the workrooms by the employer or, if he fails to do so, by the controller of labor, at the expense of the employer.

ART. 7. If the minister himself acts as referee, his decision shall be published and becomes effective in the same manner.

ART. 8. If the employer refuses to conform to the decision of the arbitration board, the industrial establishment shall be placed under military control in accordance with articles 58 and 60 of the law of July 3, 1877, amended by the laws of March 5, 1890, July 17, 1898, April 17, 1901, March 27, 1906, and July 23, 1911.

ART. 9. If the decision of the arbitration board orders the payment to the workmen, in accordance with the decree of August 10, 1899, of sums, supplementary to the wages, or otherwise, and if the employer refuses to conform to such order, the administrative personnel of the industrial establishment shall be placed, in virtue of the disposition above mentioned, under military control for the purpose of effecting the necessary payments.

The sums necessary to make these payments shall be advanced by the ministry of munitions, to be subsequently retained from sums due to the employer by the State.

ART. 10. Should there be workmen refusing to comply with the arbitrator's decision, they shall be placed under military control in accordance with article 5, paragraph 8, or of articles 58 and 60 of the law of July 3, 1877, before cited.

ART. 11. Whenever the controller of labor is served with a notice of a collective dispute, he shall immediately give notice of it to the district military authority.

From the time of the notification of the controller of labor of the dispute until the posting of the decision of the arbitration board the above-named military authority shall place under military control (in conformity with articles 58 and 60 of the law of July 3, 1877, amended by the laws of March 5, 1890, July 17, 1898, April 17, 1901, March 27, 1906, and July 23, 1911) the entire directing administrative personnel and the working force of the establishment, so that order and continuity of production may be maintained.

ART. 12. The provisions of the arbitral decision, rendered for one or more establishments or for one or more classes of workers, may, by decision of the minister of munitions, be made applicable in the district affected, to all or a portion of the other establishments in this district or to other occupational groups which may be found in comparable conditions.

ART. 13. The provisions of this decree are not applicable to mobilized persons, for whom the conditions of work shall continue to be determined by the controller of labor, in conformity with the normal and current conditions in the specific occupations in the district.

NEW REGULATIONS AS TO WAGES OF WORKERS IN MUNITIONS FACTORIES.

The new regulations concerning earnings of male and female workers engaged in the manufacture of armaments, munitions, and war materials in Paris and in the Department of the Seine, are as follows:

1.

The rates of pay provided for in the schedule hereto attached shall not be considered as effecting in any case a decrease in wages which may be higher at present, whether they be basic or piecework wages.

This schedule represents, with respect to the minimum wages, and with respect to piecework, the minimum hourly wages which should be earned by an average worker working normally, but in neither the one nor the other case do they preclude higher wages.

2. BASIC RATES.

A basic rate is established for occupations in Paris and the Department of the Seine. The basic rate shall be uniform for all workers, male and female, performing identical work.

The lowest wages paid must assure the minimum necessary to provide a living. Premiums, extra pay, etc., constitute supplementary earnings corresponding to the increased production of male and female workers more apt and more enduring.

This schedule of rates and the present regulations shall be posted in the workshops in accordance with regulations issued by the controller of labor.

3. PIECEWORK.

The rate of pay for piecework must be fixed in a manner to permit an average workman, working normally, to earn a minimum computed on the basic rate, and a bonus determined by the scale appended here (minimum hourly wage for piecework).

In case of disputes, the burden of proof rests on the employer to establish the fact that the piece rate surely permits the earning of the bonus provided

There is no limitation of rate provided for piecework.

4. PREMIUMS (GRATUITIES OR ENGLISH PREMIUMS).

Male and female workers, to whom work may not be assigned at piece rates, may receive premiums or gratuities above the basic rate.

Their minimum earnings in that case (basic rate plus the premium or gratuity) must be fixed at the minimum piece rate of workers of the same class employed on like manufactures and working at piece rates.

5. EARNINGS OF WOMEN AT PIECEWORK.

For work exactly identical, performed under the same conditions by men and by women, the piecework wages paid the women shall not be less than those paid to men. If one part of the work done by the men (setting up machines, regulating tools, or supplementary care) is not performed by the women, or if male workers must be provided in order to make operation possible, the total earnings of the women, plus the general expenses which the employment of women necessitates, shall not be less than that which men earn who perform all parts of the same work.

6. STABILITY OF PIECEWORK RATES.

The rates for piecework may only be decreased in case of actual modifications in machines having an influence on production and in proportion to that modification.

During the period of training of the workers, male or female, or during the period of adaptation required for new work, the proper rate of earnings shall not be less than the minimum rate known as the English rate, defined above in paragraph 2 of article 4.

7. IMPERFECT WORK.

If piecework is rejected because of imperfection and deductions are made from the earnings of male or female workers, such rejected work must be rendered useless in their presence. If, however, such imperfect work can be utilized by correction of the imperfection, of which the controller shall be the judge, the worker shall receive earnings as per schedule less costs of correction of the imperfection.

8. STOPPAGE OF WORK FOR CAUSES NOT INHERENT IN THE WORKERS.

In case of stoppage of work by accident to the machinery, lack of material, or any other causes not inherent in the laborers, the workers, male or female, shall be paid an allowance representing the loss of earnings during the period of unemployment. The sum thus paid as a substitute for earnings shall not take into account piecework earnings, or premium. Time lost in this manner shall be paid for at the basic rate.

9. PIECEWORK TICKETS.

Work tickets for piece rate or bonus work must show the district basic and special rate and the various bonuses.

The tickets must also show the number of pieces produced and the wage per unit and must be delivered to each worker on commencing work.

10. RATE SHEETS.

Rate sheets shall be prepared in conformity to a uniform model which will permit workers to easily determine the equality of wages in the different establishments. The model rate sheet will be prepared by the controller of labor.

11. EMPLOYMENT.

Regulations shall be established fixing the conditions of discharge and reemployment; they shall at all times guarantee the workers against earnings inferior to their individual ability, and assure the regularity of production of articles necessary for the national defense.

12. PENALTIES.

The system of penalties, in force in a certain number of workshops, shall be revised by a mixed commission appointed by the minister of munitions.

13. APPLICATION.

All differences arising in the application of these regulations shall, in cases of individuals, be laid before the controller of labor and, in collective cases, before the committee above provided for.

The earnings of special classes of workers, male or female, not specified in the present schedule, and which do not come under any of the specified classes, shall be fixed on identical bases by the action of the same commission.

14. REVISION.

The present rate schedule may be modified on demand of either the employers' or workmen's organizations.

BASIC MINIMUM WAGE SCALE.

Unskilled workers.

Basic wage: Men, 0.80 franc [15.4 cents]; women, 0.65 franc [12.5 cents]. Average minimum hourly wage for piecework: Men, 1 franc [19.3 cents]; women, 0.75 franc [14.5 cents].

Skilled workers.

Occupation.	Basic wage.		Average hourly minimum wage for piecework.	
	Francs.	Cents.	Francs.	Cents.
Fitters, semiskilled.....	0.75	[14.5]	0.95	[18.3]
Fitters, setters up, inspectors.....	1.00	[19.3]	1.30	[25.1]
Tool fitters.....	1.10	[21.2]	1.40	[27.0]
Turners, skilled.....	1.00	[19.3]	1.30	[25.1]
Turners, tool makers.....	1.15	[22.2]	1.45	[28.0]
Milling.....	1.00	[19.3]	1.30	[25.1]
Milling, hand-fed.....	1.10	[21.2]	1.40	[27.0]
Metal beaters, planers.....	1.00	[19.3]	1.30	[25.1]
Correctors.....	1.00	[19.3]	1.30	[25.1]
Correctors, tool makers.....	1.10	[21.2]	1.40	[27.0]
Tinsmiths, sheet-iron workers.....	.95	[18.3]	1.25	[24.1]
Boiler makers.....	1.00	[19.3]	1.30	[25.1]
Solderers' helpers.....	.75	[14.5]	.95	[18.3]
Solderers, autogenous.....	1.00	[19.3]	1.30	[25.1]
Hammer works: Blacksmiths, skilled pattern makers.....	1.15	[22.2]	1.60	[30.9]
Small forges: Blacksmith's helpers (hand), and tool makers.....	.95	[18.3]	1.35	[26.1]

CONCILIATION WORK OF THE DEPARTMENT OF LABOR, JANUARY 16, 1917, TO FEBRUARY 15, 1917.

Under the organic act of the department, which gives the Secretary of Labor the authority to mediate in labor disputes through the appointment, in his discretion, of commissioners of conciliation, the Secretary exercised his good offices between January 16, 1917, and February 15, 1917, in nine labor disputes. The companies involved, the number of employees affected, and the results secured, so far as information is available, were as follows:

NUMBER OF LABOR DISPUTES HANDLED BY THE DEPARTMENT OF LABOR THROUGH ITS COMMISSIONERS OF CONCILIATION, JAN. 16 TO FEB. 15, 1917.

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
Strike of employees at American Smelting & Refining Co., Perth Amboy and Maurer, N. J.	1,600	.....	Adjusted.
Strike, Wm. M. Crane Stove Works, Jersey City, N. J.	(1)	(1)	Pending.
Strike of machinists, Philadelphia, Pa.	(1)	(1)	Do.
Strikes of shirt makers, Philadelphia, Pa.	(1)	(1)	Do.
Strikes of garment workers, Philadelphia, Pa.	(1)	(1)	Do.
Strike, Claus Spreckels sugar refinery, Philadelphia, Pa.	(1)	(1)	Do.
Lockout, Clark Bros. machine shop, Olean, N. Y.	(1)	(1)	Do.
Controversy in bridge and building department, St. Louis & San Francisco (Frisco) R. R., Newburg, Mo., and West Tulsa, Okla.	(1)	(1)	Do.
Strike, Remington Arms Co., Bridgeport, Conn.	(1)	(1)	Do.

¹ Not reported.

The following cases have been disposed of:

Strike of cigar makers, Detroit, Mich.: Unable to adjust.

Strike, New Cornelia Copper Co., Ajo, Ariz.: Adjusted.

Strike of textile workers, Iron Works mills, M. C. D. Borden & Sons Co., Fall River, Mass.: Adjusted.

NEW AGREEMENT IN THE DRESS AND WAIST INDUSTRY, NEW YORK CITY.

During a period of several months the dress and waist makers' local No. 25 of the International Ladies' Garment Workers' Union, New York City, submitted to the Dress and Waist Manufacturers' Association certain demands, asking for changes in the provisions of the protocol of peace entered into between the union and the association on January 18, 1913, including subsequent amendatory decisions of the board of arbitration. These demands were met by the manufacturers' association, under date of January 9, 1917, by countersuggestions, and an agreement failing, the whole matter was referred to the board of arbitration created by the protocol to which reference has been made. While reserving action on a few points in controversy, the board of arbitration in a decision effective January 29, 1917, granted several of the demands of the union and of the association, and, in denying others, submitted in lieu thereof rulings to govern the future action of both sides in dispute.

The union requested that the wages and earnings of the workers in the industry be increased 20 per cent, and that the number of working hours per week be reduced to 48. Both of these demands were denied. The board, however, fixed the number of hours at 49—9 on the first five days and 4 on Saturdays and Sundays—and established a schedule of weekly minimum wages representing increases ranging from $5\frac{1}{2}$ to $16\frac{2}{3}$ per cent.¹ As illustrative of the changes in wages it may be stated that the union asked for an hourly base rate of 50 cents for tuckers, closers, sleeve setters, buttonhole makers, and hemmers, and of 35 cents for hemstitchers, lace runners, and button sewers. The association rejected this and offered to pay 40 cents per hour to tuckers, 35 cents to closers, sleeve setters, and hemmers, 38 cents to buttonhole makers, and a minimum of \$12 per week to hemstitchers on week work, with no base rates for lace runners and button sewers. The board of arbitration determined upon a piecework basis,² the rates to be fixed so as to yield to the average experienced tucker, closer, hemmer, and buttonhole maker not less than 50 cents for each hour of continuous work, and to hemstitchers, lace runners, and button sewers not less than 38 cents.

Some difficulty having arisen as to the settlement of price disputes, the union requested that the protocol be amended by providing that all price disputes be adjusted within one week, workers not being required to do work on disputed garments after the lapse of such week. The association refused to accede to this demand, but it was granted by the board of arbitration in a modified form providing that "all price disputes shall be adjusted by the second pay

¹ This schedule to be in force pending the change to piecework basis as mentioned in footnote 2.

² It further decided that all shops in which operating had been done by the week should change the system to piecework, the chief clerks having the power to make exemptions wherever necessary.

day for the garments in dispute; if not then adjusted, payment shall be made then and thereafter until adjustment at the maximum of the disputed prices; any excess over the finally adjusted price thus paid shall be deducted or reimbursed when the price shall have been finally adjusted."

On this matter of price disputes the association submitted a request that no worker in a shop shall be eligible to membership on a price committee unless said worker shall have been a constant worker in such shop for at least 6 months. In denying this request the board of arbitration provided that "a price committee shall be elected by the employees in the shop at a regular shop meeting, if possible from among workers who have been employed in that shop not less than from one to three months."

As to the status of some of the workers, the union felt that the provision against admitting any new cutters' apprentices into the industry should be extended for a period of two years after April 19, 1917, and that the head cutter, also known as the foreman cutter, should be entitled to the same rights and protection of the protocol as other members of the union. Both of these requests were denied. However, the further request of the union that the provision of the protocol concerning equal distribution of work be made to apply to all classes of workers, including cutters, was granted in part, the provision being made that it shall apply to all full-fledged cutters, but as to other cutters shall be optional with the employer.

The union also felt that it was necessary to protect workers from discharge upon being eligible to higher rate of pay because of length of service, such discharge being resorted to by the employer to evade paying the higher rate, and asked that the association subscribe to this request. It was rejected, however, but the board of arbitration, after considering the demand for several months, decided in favor of the union and declared that a discharge for the reason given shall be deemed a wrongful discharge.

Some difference of opinion having arisen as to what constitutes a reorganization of an establishment as provided for in the protocol, the union sought to have an amendment adopted defining a reorganization as meaning one necessitated by the permanent curtailment of the employer's business or a fundamental change in the character of the business, with the further provisions that "no shop chairman or member of the price committee shall be discharged on account of such reorganization," and that "such reorganization shall be undertaken only at the beginning of the season," discharges at that time to be determined on the basis of seniority of employment. This demand of the union was rejected by the association, but the board of arbitration granted it with the exception of the last two clauses, beginning with the word "such."

The union also thought that the clause in the protocol relating to the registration of outside shops should be amended by adding "and no member of the association shall have any work done by a firm not a member of the association or under contract with the union, nor shall any member of the association buy ready-made garments from such firm. In all cases in which an association member shall sell or deliver goods to another person or concern to be made up into garments and to be resold or are delivered to such member the goods shall be cut on the premises of the association member and shall be delivered in cut form." While reserving its decision on the first part of this demand, the board of arbitration denied the request because of that portion of it beginning with the word "nor."

In their counterdemands the manufacturers' association asked that a definite time limit be set for the duration of the protocol and that all questions of wages, hours, etc., be so set forth that there would be no changes, at least until the termination of the protocol. The board of arbitration fixed two years beginning January 1, 1917, as the life of the protocol, and provided that it may be renewed for further periods of two years, unless written notice of termination is given by either party, under certain conditions; and that during such period of two years no change in its terms shall be made except "in case of some great emergency affecting either the specific industry or business conditions generally in the country." The board of arbitration reserved the right to judge as to the existence of this emergency. However, wages, base rates, and hours are subject to revision by the board, on application by either party not later than the 1st of November in any year. As to proposed changes in the protocol, if the parties disagree and the matter is submitted to the board of arbitration both sides shall be bound by its decision. Complaints of violation of any part of the protocol shall be filed in writing within 10 days after such violation shall have been brought to the notice of the chief clerks. Controversies as to wages or settlement of prices, wherein the clerks fail to agree, are, according to the decision of the board, to be submitted to the committee of immediate action instead of the board of protocol standards as heretofore.

The board of arbitration refused to grant the request of the manufacturers' association that a clause be inserted to provide that the union shall compensate the manufacturer for all loss caused by stoppage of work, but granted the request that the board of protocol standards be denied the judicial powers heretofore enjoyed by it.

The request of the association that there be established three different grades for apprentices in the various branches of week work was reserved for future decision. The request of the union relative to the admission of new members into the association and the request relative to the right to send representatives into a workshop for certain purposes were also reserved for further consideration.

**FEDERAL EMPLOYMENT WORK OF THE DEPARTMENT OF LABOR FOR
THE FISCAL YEAR ENDING JUNE 30, 1916.**

The report of the Chief of the Division of Information of the Bureau of Immigration,¹ for the fiscal year ending June 30, 1916, presents the results of the Federal employment work of the Department of Labor for the first full year during which anything approximating a national employment system has existed. To facilitate the carrying on of this work the country is divided into 20 zones, each having a central office known as zone headquarters. In addition to these there are 62 sub-branch offices. Since each zone reports directly to the Division of Information, facts concerning labor conditions throughout the country are as reliable and up-to-date as can be obtained. The following table shows the work of the service since its establishment:

Number of jobs secured yearly from 1907 to date.

Actually placed, fiscal years—

1908 and 1909	5, 008
1910.....	4, 283
1911.....	5, 176
1912.....	5, 807
1913.....	5, 025
1914.....	3, 368
1915.....	11, 871
1916.....	75, 195
Total.....	115, 733

Number of applications for jobs yearly to date.

Fiscal years—

1908 and 1909.....	26, 477
1910.....	18, 239
1911.....	30, 657
1912.....	26, 213
1913.....	19, 891
1914.....	19, 393
1915.....	90, 119
1916.....	184, 481
Total.....	415, 470

The most striking fact in the preceding figures is the large increase in the number of applicants and jobs secured during 1915, the year in which the zone system was put in operation, and the still larger increase during the following year.

Throughout this development of the Federal employment service it has been the purpose of the Department of Labor to supplement rather than displace the work of States and municipalities in this

¹ Annual Report of the Commissioner General of Immigration, fiscal year ended June 30, 1916, pp. 143-173. Washington, 1916.

field, because it is recognized that the latter enjoy facilities that are not within the reach of the Federal Government.

The Department of Labor has received active cooperation from the Departments of the Interior, Agriculture, Commerce, and the Post Office Department. The report of the Chief of the Division of Information suggests that still further cooperation by the Post Office Department would be of advantage in bringing together those desiring employment and those securing labor.

On May 1, 1916, a division was organized to be devoted to the employment of women and girls, and one for young men and boys. The organization of a division for aged people is contemplated.

Just prior to the harvesting of the grain crop of 1916 the Department of Labor was advised by the labor commissioners of Oklahoma, Kansas, North Dakota, and South Dakota that their States would require 6,000, 35,000 to 40,000, 10,000, and 8,000 harvesters, respectively. The inspector in charge of zone No. 2 was directed to open headquarters in Kansas City, Mo., in order intelligently to direct applicants for work to the grain fields. Since this work extended beyond the end of the fiscal year, a full report is not available.

The following table gives a summary of the work done by the Federal employment service in the various zones:

GENERAL SUMMARY OF ACTIVITIES OF THE UNITED STATES EMPLOYMENT SERVICE FOR THE FISCAL YEAR ENDING JUNE 30, 1916.

Zone No.	Zone headquarters.	Opportunities received.		Applications for employment.		
		Applications for help.	Persons applied for.	Applications for employment.	Persons referred to employment.	Persons actually placed.
1	Boston, Mass.....	44	2,156	824	155	148
2	New York, N. Y. (includes New- ark).....	2,618	16,441	18,933	9,819	7,657
3	Philadelphia, Pa.....	1,026	11,357	10,438	4,675	3,226
4	Baltimore, Md.....	218	631	3,542	1,904	1,904
5	Norfolk, Va.....	155	874	846	428	360
6	Jacksonville, Fla.....	178	2,461	5,747	1,592	1,421
7	New Orleans, La.....	76	504	2,891	239	40
8	Galveston, Tex.....	59	477	1,143	149	61
9	Cleveland, Ohio.....	276	1,505	1,334	593	202
10	Chicago, Ill.....	2,689	28,147	56,056	26,721	25,892
11	Minneapolis, Minn.....	701	795	643	380	378
12	St. Louis, Mo. (includes Kansas City).....	1,568	7,216	7,713	3,420	2,462
13	Denver, Colo.....	111	163	600	260	62
14	Helena, Mont.....	65	154	194	144	46
15	Seattle, Wash.....	7,109	15,885	36,051	14,926	14,585
16	Portland, Oreg.....	4,458	12,177	10,175	10,533	9,545
17	San Francisco, Cal.....	2,170	3,670	14,659	3,312	2,466
18	Los Angeles, Cal.....	2,119	5,158	12,692	5,705	4,740
	Total.....	25,640	100,771	184,481	84,955	75,195

From this table it will be seen that the New York branch, which was for many years the principal distributing center, stands fourth in the number of persons actually placed, Chicago being first, Seattle, second, and Portland, Oreg., third.

The following table shows by occupations the number of applicants for work and the number of applicants actually placed during the fiscal year 1916:

NUMBER OF APPLICATIONS FOR EMPLOYMENT AND OF PERSONS ACTUALLY PLACED DURING THE FISCAL YEAR ENDING JUNE 30, 1916, BY OCCUPATIONS.

Occupation.	Number of—		Occupation.	Number of—	
	Applica- tions for employ- ment.	Persons actually placed.		Applica- tions for employ- ment.	Persons actually placed.
Bakers.....	773	49	Metal workers (not iron and steel).....	716	20
Barbers.....	177	2	Millers.....	112	.....
Blacksmiths.....	1,344	115	Miners.....	1,740	381
Boilermakers.....	13	31	Molders.....	12	² 129
Bookbinders.....	153	6	Musicians.....	130	9
Brewers.....	38	.....	Nurses.....	698	61
Butchers.....	417	18	Painters and glaziers.....	1,974	305
Boys (16 to 20).....	489	¹ 392	Pattern makers.....	96	11
Carpenters and cabinetmakers	4,772	² 1,045	Photographers.....	78	1
Chauffeurs.....	915	21	Plasterers.....	320	5
Clerks, bookkeepers, and ac- countants.....	8,140	444	Plumbers and steam fitters.....	1,258	65
Cooks and domestics.....	10,880	4,361	Porters, hotel help, etc.....	9,168	436
Draftsmen.....	141	7	Printers.....	470	9
Drivers, teamsters, etc.....	3,135	619	Salesmen and solicitors.....	631	409
Dyers and cleaners.....	86	2	Saddlers and harness makers.....	61	.....
Electricians.....	1,202	39	Seamstresses.....	3	19
Engineers (civil).....	404	.....	Settlers.....	88	5
Engineers (mechanical).....	2,060	59	Shipwrights and joiners.....	73	.....
Engravers.....	44	1	Shoemakers.....	137	4
Factory hands.....	6,033	1,349	Stonecutters and drillers.....	269	.....
Farmers.....	2,168	127	Tailors.....	506	6
Farm laborers.....	30,117	7,663	Tanners and curriers.....	111	9
Firemen.....	2,365	105	Teachers.....	20	.....
Fruit pickers and packers.....	6,227	5,877	Telegraph and telephone op- erators.....	159	4
Furriers and fur workers.....	99	2	Tinners.....	193	11
Gardeners.....	1,066	285	Tobacco workers.....	63	.....
Iron and steel workers.....	1,451	309	Upholsterers.....	247	3
Janitors.....	452	274	Watchmen and messengers.....	1,021	149
Jewelers and watchmakers.....	98	.....	Weavers, spinners, etc.....	100	6
Laborers.....	66,181	46,546	Waiters.....	223	122
Laundry workers.....	74	25	Wheelwrights.....	119	.....
Literary and scientific.....	89	.....	Woodworkers, etc.....	272	41
Locksmiths.....	389	.....	Woodsmen.....	638	99
Machinists.....	5,550	² 1,273	Unclassified.....	3,172	1,511
Mariners, seamen, etc.....	821	150			
Masons and bricklayers.....	1,019	109			
Merchants.....	221	.....	Total.....	184,481	75,195

¹ Juvenile workers without indication of sex.

² Inclusive of helpers.

Of the 75,195 persons who found employment through the Federal employment service, 46,546, or 61.9 per cent, were ordinary laborers; 58,263 (77.48 per cent) were American citizens, and of this latter number, 57,727 (99.08 per cent) were native Americans. Fifty-four races or peoples and 66 different occupations were represented in the total number of persons placed.

WORK OF STATE AND MUNICIPAL EMPLOYMENT OFFICES IN THE UNITED STATES AND OF PROVINCIAL EMPLOYMENT BUREAUS IN CANADA.

In the following table data are presented for January, 1916, and January, 1917, relative to the operations of public employment offices. Figures furnished for the United States are for State employment bureaus in 15 States, municipal employment bureaus in 8

States, a State-city employment bureau in 1 State, and a city-private employment bureau in 1 State. Figures are also given for 2 Canadian employment bureaus.

OPERATIONS OF PUBLIC EMPLOYMENT OFFICES, JANUARY, 1916 AND 1917.

UNITED STATES.

State and city.	Applica- tions from em- ployers.	Persons asked for by em- ployers.	Persons applying for work.		Persons referred to posi- tions.	Positions filled.
			New registra- tions.	Renew- als.		
California (municipal):						
Berkeley—						
January, 1916.....	118	131	182	617	131	131
January, 1917.....	202	231	161	562	228	228
Fresno—						
January, 1916.....	145	254	826	44	281	243
January, 1917.....	232	422	543	77	472	415
Sacramento—						
January, 1916.....	133	267	70	(1)	267	267
January, 1917.....	176	221	83	(1)	(1)	221
California (State):						
Oakland—						
January, 1917.....	676	871	519	.....	927	705
Sacramento—						
January, 1917.....	219	433	233	.....	321	245
San Francisco—						
January, 1917.....	1,069	1,729	1,903	.....	1,818	1,324
Total:						
January, 1916.....					679	641
January, 1917.....					2,766	2,138
Connecticut (State):						
Bridgeport—						
January, 1916.....	652	(1)	(1)	(1)	(1)	145
January, 1917.....	713	(1)	(1)	(1)	(1)	624
Hartford—						
January, 1916.....	480	(1)	(1)	(1)	(1)	380
January, 1917.....	835	(1)	(1)	(1)	(1)	688
New Haven—						
January, 1916.....	444	(1)	(1)	(1)	(1)	312
January, 1917.....	823	(1)	(1)	(1)	(1)	701
Norwich—						
January, 1916.....	190	(1)	(1)	(1)	(1)	178
January, 1917.....	259	(1)	(1)	(1)	(1)	234
Waterbury—						
January, 1916.....	174	(1)	(1)	(1)	(1)	111
January, 1917.....	159	(1)	(1)	(1)	(1)	109
Total:						
January, 1916.....					(1)	1,126
January, 1917.....					(1)	2,356
Colorado (State):						
Colorado Springs—						
January, 1916.....	(1)	456	(1)	(1)	(1)	399
January, 1917.....	410	410	522	(1)	336	336
Denver No. 1—						
January, 1916.....	(1)	138	(1)	(1)	(1)	100
January, 1917.....	155	155	378	(1)	135	135
Denver No. 2—						
January, 1916.....	(1)	120	(1)	(1)	(1)	103
January, 1917.....	143	143	143	(1)	107	107
Pueblo—						
January, 1916.....	(1)	117	(1)	(1)	(1)	112
January, 1917.....	(1)	(1)	(1)	(1)	(1)	(1)
Total:						
January, 1916.....					(1)	714
January, 1917.....					578	578

¹ Not reported.

² Including figures for State employment offices not in operation in January, 1916, but not including figures for Sacramento, not reported.

³ Including figures for State employment offices not in operation in January, 1916.

⁴ Number applying for work.

⁵ Not including figures for Pueblo, not reported.

OPERATIONS OF PUBLIC EMPLOYMENT OFFICES, JANUARY, 1916 AND 1917—Continued.

UNITED STATES—Continued.

State and city.	Applica- tions from em- ployers.	Persons asked for by em- ployers.	Persons applying for work.		Persons referred to posi- tions.	Positions filled.
			New registra- tions.	Renew- als.		
Illinois (municipal):						
Chicago—						
January, 1916.....	20	97	(1)	(1)	97	67
January, 1917.....	21	66	300	(1)	66	26
Indiana (State):						
Fort Wayne—						
January, 1916.....	(1)	113	(1)	(1)	113	112
January, 1917.....	318	440	136	(1)	435	409
Indianapolis—						
January, 1916.....	(1)	175	(1)	(1)	184	158
January, 1917.....	625	669	689	78	689	575
South Bend—						
January, 1916.....	(1)	310	(1)	(1)	300	269
January, 1917.....	120	464	383	24	250	228
Total:						
January, 1916.....					597	539
January, 1917.....					1,374	1,212
Iowa (State):						
Des Moines—						
January, 1917.....	26	58	87	25	49	24
Kansas (State):						
Topeka—						
January, 1916.....	8	8	48		12	8
January, 1917.....	87	136	71	4	65	60
Kentucky (city, private):						
Louisville—						
January, 1916.....	(1)	164	460	825	149	109
January, 1917.....	(1)	315	351	1,000	349	145
Kentucky (State):						
Louisville—						
January, 1916.....	138	138	187		138	138
January, 1917.....	157	157	343		157	157
Total:						
January, 1916.....					287	247
January, 1917.....					506	302
Michigan (State):						
Battle Creek—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	160
January, 1917.....	53	144	106	(1)	93	93
Bay City—						
January, 1917.....	38	122	193	(1)	61	61
Detroit—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	2,832
January, 1917.....	1,700	4,030	(1)	(1)	4,030	4,030
Flint—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	455
January, 1917.....	491	491	(1)	(1)	491	491
Grand Rapids—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	686
January, 1917.....	437	679	(1)	(1)	567	567
Jackson—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	461
January, 1917.....	279	546	574	(1)	540	526
Kalamazoo—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	362
January, 1917.....	144	344	411	(1)	344	344
Lansing—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	142
January, 1917.....	43	201	112	(1)	90	99
Muskegon—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	99
January, 1917.....	77	212	217	(1)	185	159
Saginaw—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	572
January, 1917.....	102	508	513	(1)	513	513
Total:						
January, 1916.....					(1)	5,769
January, 1917.....					6,923	6,833

¹ Not reported.² Estimated.³ Number applying for work.⁴ Opened Jan. 15, 1916.⁵ Exclusive of figures for office at Bay City opened since January, 1916, and inclusive of figures for office at Muskegon opened Jan. 15, 1916.

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OPERATIONS OF PUBLIC EMPLOYMENT OFFICES, JANUARY, 1916 AND 1917—Continued.

UNITED STATES—Continued.

State and city.	Applica- tions from em- ployers.	Persons asked for by em- ployers.	Persons applying for work.		Persons referred to posi- tions.	Positions filled.
			New registra- tions.	Renew- als.		
Minnesota (State):						
Duluth—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	772
January, 1917.....	(1)	(1)	(1)	(1)	(1)	1,192
Minneapolis—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	1,141
January, 1917.....	(1)	(1)	(1)	(1)	(1)	1,557
St. Paul—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	856
January, 1917.....	(1)	(1)	(1)	(1)	(1)	817
Total:						
January, 1916.....					(1)	2,769
January, 1917.....					(1)	3,566
Missouri (State):						
Kansas City—						
January, 1916.....	(1)	112	* 173	(1)	(1)	102
January, 1917.....	411	620	(1)	(1)	607	606
St. Joseph—						
January, 1916.....	(1)	535	* 570	(1)	(1)	463
January, 1917.....	(1)	887	(1)	(1)	(1)	702
St. Louis—						
January, 1916.....	(1)	239	* 730	(1)	(1)	192
January, 1917.....	322	1,060	(1)	(1)	656	639
Total:						
January, 1916.....					(1)	757
January, 1917.....					(1)	1,947
Montana (municipal):						
Butte—						
January, 1916.....	407	407	(1)	(1)	380	350
January, 1917.....	393	(1)	400	(1)	(1)	261
New York (municipal):						
New York City—						
January, 1916.....	1,510	1,592	1,999	(1)	2,234	1,283
January, 1917.....	3,025	3,320	2,790	(1)	4,361	2,526
New York (State):						
Albany—						
January, 1916.....	294	422	612	280	614	304
January, 1917.....	472	793	521	334	823	468
Brooklyn—						
January, 1916.....	886	1,489	1,530	564	1,683	828
January, 1917.....	1,763	2,565	1,436	671	2,725	1,624
Buffalo—						
January, 1916.....	568	778	754	333	829	531
January, 1917.....	983	1,779	1,478	98	1,934	1,390
Rochester—						
January, 1916.....	622	954	692	282	990	541
January, 1917.....	1,250	1,828	936	720	1,658	942
Syracuse—						
January, 1916.....	467	594	569	155	585	478
January, 1917.....	953	1,341	893	227	1,204	818
Total:						
January, 1916.....					6,935	3,965
January, 1917.....					12,705	7,768
Ohio (State-city):						
Akron—						
January, 1916.....	(1)	1,481	949	1,767	1,276	938
January, 1917.....	(1)	2,097	876	2,104	1,824	1,418
Cincinnati—						
January, 1916.....	(1)	1,289	1,797	4,500	1,262	887
January, 1917.....	(1)	1,553	1,690	3,280	1,601	1,109
Cleveland—						
January, 1916.....	(1)	5,493	2,026	7,828	4,202	3,339
January, 1917.....	(1)	7,325	3,173	8,233	6,344	5,121
Columbus—						
January, 1916.....	(1)	1,457	743	2,629	1,371	1,147
January, 1917.....	(1)	2,081	744	2,367	1,926	1,674

1 Not reported.

* Number applying for work.

OPERATIONS OF PUBLIC EMPLOYMENT OFFICES, JANUARY, 1916 AND 1917—Continued.

UNITED STATES—Continued.

State and city.	Applica- tions from em- ployers.	Persons asked for by em- ployers.	Persons applying for work.		Persons referred to posi- tions.	Positions filled.
			New registra- tions.	Renew- als.		
Ohio (State-city)—Concluded.						
Dayton—						
January, 1916.....	(1)	992	825	1,422	779	730
January, 1917.....	(1)	1,097	819	1,493	902	794
Toledo—						
January, 1916.....	(1)	1,786	1,252	2,350	1,602	1,199
January, 1917.....	(1)	2,680	1,160	2,360	2,102	1,744
Youngstown—						
January, 1916.....	(1)	1,073	663	1,041	984	756
January, 1917.....	(1)	1,411	915	839	1,317	1,160
Total:						
January, 1916.....					11,476	8,996
January, 1917.....					16,016	13,020
Oklahoma (State):						
Enid—						
January, 1916.....	61	(1)	(1)	(1)	(1)	58
January, 1917.....	(1)	71	115	(1)	64	65
Muskogee—						
January, 1916.....	229	(1)	(1)	(1)	(1)	212
January, 1917.....	(1)	330	355	(1)	307	253
Oklahoma City—						
January, 1916.....	203	(1)	(1)	(1)	(1)	158
January, 1917.....	(1)	331	387	(1)	344	305
Tulsa—						
January, 1916.....	313	(1)	(1)	(1)	(1)	261
January, 1917.....	(1)	893	858	(1)	833	832
Total:						
January, 1916.....					(1)	689
January, 1917.....					1,548	1,455
Oregon (municipal):						
Portland—						
January, 1916.....	1,274	3,223	2,496	(1)	3,052	3,052
January, 1917.....	423	587	380	(1)	(1)	565
Pennsylvania (State):						
Altoona—						
January, 1917.....	(1)	248	93	26	101	97
Du Bois—						
January, 1917.....	(1)	132	20	5	19	9
Harrisburg—						
January, 1916.....	43	372	188	21	137	64
January, 1917.....	(1)	1,123	330	137	313	268
Johnstown—						
January, 1916.....	30	40	102	2	68	33
January, 1917.....	(1)	171	66	19	73	59
Philadelphia—						
January, 1916.....	110	481	1,277	190	466	267
January, 1917.....	(1)	1,838	1,040	968	1,665	1,438
Pittsburgh—						
January, 1917.....	(1)	883	710	235	687	633
Total:						
January, 1916.....					671	364
January, 1917.....					2,848	2,504
Rhode Island (State):						
Providence—						
January, 1916.....	209	274	163	116	211	211
January, 1917.....	149	167	103	84	(1)	167
Texas (municipal):						
Dallas—						
January, 1916.....	106	167	102	11	160	145
January, 1917.....	192	310	246	16	344	298

1 Not reported.

2 Number applying for work.

3 In cooperation with Du Bois Chamber of Commerce.

4 Including figures for offices at Altoona, Du Bois, and Pittsburgh opened since January, 1916.

5 Including 135 transients.

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OPERATIONS OF PUBLIC EMPLOYMENT OFFICES, JANUARY, 1916 AND 1917—Concluded.

UNITED STATES—Concluded.

State and city.	Applica- tions from em- ployers.	Persons asked for by em- ployers.	Persons applying for work.		Persons referred to posi- tions.	Positions filled.
			New registra- tions.	Renew- als.		
Texas (municipal)—Concluded.						
Fort Worth—						
January, 1916.....	106	158	(1)	(1)	160	155
January, 1917.....	132	277	1,101	43	200	194
Total:						
January, 1916.....					320	300
January, 1917.....					544	492
Virginia (municipal):						
Richmond—						
January, 1916.....	228	364	686	(1)	393	157
January, 1917.....	321	445	524	(1)	560	231
Washington (Federal municipal): Ta- coma. ¹						
Washington (municipal):						
Everett—						
January, 1916.....	(1)	(1)	(1)	(1)	(1)	170
January, 1917.....	(1)	(1)	(1)	(1)	(1)	256
Seattle—						
January, 1916.....	680	1,348	339	(1)	1,348	680
January, 1917.....	2,306	3,523	(1)	(1)	3,591	3,161
Spokane—						
January, 1916.....	436	709	349	54	695	689
January, 1917.....	972	1,905	125	20	1,907	1,907
Total:						
January, 1916.....					(1)	1,539
January, 1917.....					(1)	5,324
Wisconsin (State):						
La Crosse—						
January, 1916.....	115	179	(1)	(1)	172	94
January, 1917.....	210	117	² 221	(1)	141	63
Milwaukee—						
January, 1916.....	1,231	2,807	(1)	(1)	2,535	1,917
January, 1917.....	3,735	1,628	² 3,224	(1)	3,373	2,591
Oshkosh—						
January, 1916.....	115	130	(1)	(1)	108	78
January, 1917.....	189	126	² 178	(1)	113	80
Superior—						
January, 1916.....	262	927	(1)	(1)	782	567
January, 1917.....	666	269	² 609	(1)	682	388
Total:						
January, 1916.....					3,597	2,656
January, 1917.....					4,309	3,122

DOMINION OF CANADA.

Quebec (Province):						
Montreal—						
January, 1917.....	267	591	² 400	(1)	500	406
Quebec—						
January, 1916.....	(1)	20	² 100	(1)	(1)	12
January, 1917.....	(1)	113	² 153	(1)	(1)	102
Total:						
January, 1916.....					(1)	(1)
January, 1917.....					(1)	508

¹ Not reported.

² Figures for this office are carried regularly in the Review under the subject, "Federal employment work of the Department of Labor," to which the reader is referred.

³ Number applying for work.

PUBLIC EMPLOYMENT OFFICES IN HUNGARIAN CITIES.

Following the example set by other countries with progressive tendencies as to labor legislation, the Hungarian Parliament, on March 19, 1916, enacted a law making it obligatory for large cities and communes to maintain public employment offices. The law goes even further by providing that cities may be obligated to extend the activities of their employment offices to territory beyond the city limits. For Hungary proper the law leaves the designation of the cities and communes which shall maintain public employment offices, and of the territory assigned to the individual offices as well as the determination of the regulations for the organization and conduct of these offices, to the joint action of the ministers of commerce and of the interior, and for Croatia-Slavonia to that of the governor of this crownland.

The law provides for the granting of subsidies from the State budget in the case of Hungary proper and from the autonomous provincial budget in the case of Croatia-Slavonia to those cities the employment offices of which extend their field of activities beyond the city limits. Public employment offices organized under the law must give their services absolutely free to employers as well as to employees and workmen. The activities of the employment officers are to include the procuring of employment in all industrial occupations and in mining and commerce. The law came into force three months after its promulgation.

EMPLOYMENT IN SELECTED INDUSTRIES IN JANUARY, 1917.

Reports received from representative establishments concerning volume of employment in January, 1917, as compared with the same month in the preceding year, show that in 11 of the 13 industries included in the inquiry the number of employees on the pay roll was greater in January, 1917, than in January, 1916. The greatest increase shown (33.2 per cent) is in automobile manufacturing. The two industries showing a decrease are woolen manufacturing and cigar manufacturing. The figures in the last-named industry are slightly affected by a strike occurring in January, 1917, in one establishment. In boot and shoe manufacturing the figures show somewhat the influence of a total shut-down in one establishment in January, 1916, because of a fire. The amount of money paid to employees in January, 1917, was greater than in January, 1916, in each of the 13 industries. The greatest increase reported is 63.8 per cent for the iron and steel industry.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS IN JANUARY, 1916,
AND JANUARY, 1917.

Industry.	Estab- lish- ments to which in- quiries were sent.	Estab- lish- ments report- ing for Jan- uary both years.	Period of pay roll.	Number on pay roll in January.		Per cent of in- crease (+) or de- crease (-).	Amount of pay roll in January—		Per cent of in- crease (+) or de- crease (-).
				1916	1917		1916	1917	
Boots and shoes.....	85	60	1 week..	60,406	64,531	+ 6.8	\$788,781	\$918,475	+16.4
Cotton manufacturing.....	89	55	do....	54,532	54,582	+ .1	467,214	570,075	+22.0
Cotton finishing.....	19	18	do....	14,549	15,335	+ 5.4	161,413	206,775	+28.1
Hosiery and underwear.....	82	60	do....	32,803	34,265	+ 4.5	299,255	356,361	+19.1
Woolen.....	56	45	do....	41,899	43,045	+ 2.7	460,012	573,404	+24.6
Silk.....	64	48	2 weeks..	21,734	21,579	- .7	451,354	514,647	+14.0
Men's ready-made clothing.....	88	38	1 week..	23,980	25,653	+ 6.9	319,514	373,232	+16.8
Iron and steel.....	142	101	½ month..	156,184	194,467	+24.5	4,941,210	8,003,520	+63.8
Car building and re- pairing.....	79	35	do....	43,318	48,303	+11.5	1,215,631	1,652,829	+36.0
Cigar manufacturing.....	104	53	1 week..	18,551	17,969	- 3.1	194,107	216,216	+11.4
Automobile manufac- turing.....	69	41	do....	77,728	103,526	+33.2	1,512,832	2,068,681	+36.7
Leather manufacturing.....	45	26	do....	12,553	15,541	+23.8	150,290	212,008	+41.1
Paper making.....	69	46	do....	18,415	21,748	+18.1	235,574	318,779	+35.3

Reports were also received from a very much smaller number of establishments as to the number of employees actually working on the last full day of the reported pay period, in January, 1917, and January, 1916. While all industries are covered, some of them are poorly represented and this fact should be borne in mind in considering the figures in the following table:

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS ON LAST FULL
DAY'S OPERATION IN JANUARY, 1916, AND JANUARY, 1917.

Industry.	Estab- lishments reporting for Janu- ary both years.	Period of pay roll.	Number actually working on last full day of re- ported pay pe- riod in January—		Per cent of in- crease (+) or de- crease (-).
			1916	1917	
Boots and shoes.....	19	1 week..	10,529	11,492	+ 9.1
Cotton manufacturing.....	27	do....	20,569	20,966	+ 1.9
Cotton finishing.....	13	do....	10,333	10,640	+ 3.0
Hosiery and underwear.....	9	do....	8,794	9,369	+ 6.5
Woolen.....	35	do....	30,816	31,246	+ 1.4
Silk.....	14	2 weeks..	4,499	4,631	+ 2.9
Men's ready-made clothing.....	6	1 week..	7,810	8,793	+12.6
Iron and steel.....	95	½ month..	138,949	165,564	+23.6
Car building and repairing.....	34	do....	35,263	38,681	+ 9.7
Cigar manufacturing.....	21	1 week..	5,929	5,462	- 7.9
Automobile manufacturing.....	23	do....	58,326	78,055	+33.8
Leather manufacturing.....	11	do....	7,146	8,164	+14.2
Paper making.....	10	do....	4,095	5,234	+27.8

The figures in the next table show that in 6 of the 13 industries listed there were more employees on the pay roll in January, 1917, than in December, 1916, while in 7 industries, there was a decrease

in the number on the pay roll. The figures for cigar manufacturing are somewhat affected by two strikes, one occurring in December, 1916, and one in January, 1917. The number of employees out on account of these two strikes was greater in December, 1916, than in January, 1917. Less money was received by employees in January, 1917, than in December, 1916, in 10 of the listed industries. The greatest decrease reported is 4.9 per cent in leather manufacturing.

In three industries more money was paid to employees in January, 1917, than in December, 1916. The greatest increase was 5.4 per cent in the iron and steel industry.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS IN DECEMBER, 1916, AND JANUARY, 1917.

Industry.	Estab- lish- ments to which in- quiries were sent.	Estab- lish- ments report- ing for Decem- ber and Jan- uary.	Period of pay roll.	Number on pay roll in—		Per cent of increase (+) or de- crease (-).	Amount of pay roll in—		Per cent of increase, (+) or de- crease (-).
				Decem- ber, 1916.	Jan- uary, 1917.		Decem- ber, 1916.	Jan- uary, 1917.	
Boots and shoes.....	85	70	1 week..	42,277	42,553	+0.7	\$615,116	\$619,728	+0.7
Cotton manufacturing..	89	51	...do...	53,028	52,789	-.5	552,491	546,635	-1.1
Cotton finishing.....	19	18	...do...	15,596	15,335	-1.7	212,480	206,775	-2.7
Hosiery and under- wear.	82	55	...do....	27,277	27,046	-.8	297,801	290,900	-2.3
Woolen.....	56	39	...do....	40,190	41,223	+2.6	531,845	548,169	+3.1
Silk.....	64	43	2 weeks..	18,038	18,057	+ .1	435,780	433,182	-.6
Men's ready-made clothing.	88	37	1 week..	25,992	25,563	-1.7	381,431	371,566	-2.6
Iron and steel.....	142	101	½ month.	183,279	188,160	+2.7	7,439,853	7,838,658	+5.4
Car building and re- pairing.	79	36	...do....	54,067	53,374	-1.3	1,863,788	1,800,721	-3.4
Cigar manufacturing...	104	51	1 week..	18,073	17,661	-2.3	219,300	212,782	-3.0
Automobile manufac- turing.	69	35	...do....	103,061	103,829	+ .7	2,124,269	2,067,910	-2.7
Leather manufacturing	45	23	...do....	12,680	12,638	-.3	194,994	185,482	-4.9
Paper making.....	60	41	...do....	17,848	18,077	+1.3	269,336	267,926	-.5

The next table gives in comparable form for the 13 industries the number of employees reported as actually working on the last full day of the reported pay period in January, 1917, and December, 1916. A much smaller number of establishments reported for this item than the number of establishments reporting in the table immediately preceding. This fact should be taken into consideration in using these figures.

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COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS ON LAST FULL DAY'S OPERATION IN DECEMBER, 1916, AND JANUARY, 1917.

Industry.	Estab- lishments reporting for De- cember and Jan- uary.	Period of pay roll.	Number actually working on last full day of re- ported pay peri- od in—		Per cent of increase (+) or decrease (-).
			Decem- ber, 1916.	January, 1917.	
Boots and shoes.....	19	1 week..	4,939	5,339	+8.1
Cotton manufacturing.....	32	do.....	26,275	27,011	+2.8
Cotton finishing.....	14	do.....	11,261	10,921	-3.0
Hosiery and underwear.....	14	do.....	12,721	12,572	-1.2
Woolen.....	34	do.....	30,432	30,891	+1.5
Silk.....	21	2 weeks..	11,474	11,385	-.8
Men's ready-made clothing.....	7	1 week..	11,561	11,608	+.4
Iron and steel.....	94	1 month..	153,345	154,948	+1.0
Car building and repairing.....	35	do.....	45,937	43,748	-4.8
Cigar manufacturing.....	19	1 week..	5,402	5,334	-1.3
Automobile manufacturing.....	18	do.....	74,694	75,857	+1.6
Leather manufacturing.....	9	do.....	6,472	6,583	+1.8
Paper making.....	7	do.....	3,036	2,937	-3.3

Reports from 6 clothing establishments show \$22,283 paid for contract work in January, 1917, as against \$28,324 in January, 1916. The same establishments paid out \$16,682 for contract work in December, 1916.

CHANGES IN WAGE RATES.

Some changes in wage rates were reported as occurring in the period December 15, 1916, to January 15, 1917, in 12 of the 13 industries from which volume of employment schedules were received. The only industry in which establishments did not report any change in wage rates was automobile manufacturing. In the case of establishments that failed to answer the inquiry as to wage-rate changes, it is probably safe to assume that no changes were made.

The greatest number of changes took place in the iron and steel industry. In one establishment in this industry an increase of 3 per cent was given to 50 per cent of the force. An increase of 5 to 10 per cent to all hourly rated men is reported by one establishment, while a "bonus" of 5 per cent is given in another instance to those making full time. One establishment reports an increase of 6.6 per cent to all. An increase of 7 per cent is made by one establishment to tonnage men; two establishments grant an increase of $7\frac{1}{2}$ per cent to tonnage men, and in one of the last two establishments an increase of 10 per cent is also given to day men. One establishment gave a 7 per cent increase to 15 per cent of the force and another an average increase of 7 per cent to practically all. An increase of 8 per cent is reported by two establishments. In one case the increase was given to all and in the other instance to "practically all." A pay-roll increase of 9 per cent applied to 75 per cent of the force is reported by one establishment. Increases of between 9 and 10 per cent are reported by four establishments. In one case the increase is made

to apply to practically all, while in the other three instances the proportion of the force receiving the increase is not stated. Three establishments report a 10 per cent increase to all, while two establishments report a "general increase" of 10 per cent. One establishment reports a pay-roll increase of 10 per cent affecting nearly 95 per cent of the force; another the same rate of increase applied to all except the hot-mill department; and a third a 10 per cent increase affecting 40 per cent of the force. One establishment reports an increase of practically 10 per cent to all. Four establishments report an increase of 10 per cent, but do not state the proportion of the force receiving the same. An increase of between 10 and 11 per cent is reported by two establishments. In one case the increase was applied to all and in the other instance to 90 per cent of the force. In one establishment what appears to have been a previous bonus of 10 per cent was increased to 20 per cent and applied to all employees except bar-mill pieceworkers.

In silk manufacturing, one establishment reports an increase of 5 per cent to about 3 per cent of its force and an increase of 10 per cent to about 25 per cent of its force. Another establishment gave \$1 a week advance to weavers; still another gave an additional 50 cents a week to about 4 per cent of the employees in one occupation only, and about 10 per cent increase to a similar proportion in another single occupation. An increase of a cent a yard on weaving rates on various units is reported by one establishment, while increases of 9 and 10 per cent are reported by two establishments, the proportion of the force affected being 96 per cent in the first instance and the increase going to all in the second instance.

In the woolen industry, two increases of 10 per cent are reported. In one case the increase was given to all and in the other increase the proportion of the force receiving the increase is not stated.

In cotton manufacturing, increases of 5, 7, and 8 per cent are reported, respectively, for three establishments, who apply the increases to all. Four establishments made a 10 per cent increase applied to all and one establishment a "general increase" of 10 per cent.

In cotton finishing, an increase of 10 per cent to about 94 per cent of the force is reported by one establishment and an increase of 20 per cent to 5 per cent of the force by another establishment. In hosiery and knit goods, four establishments report an increase of 10 per cent; in two cases it was made to all, in one instance the increase is reported as "general" while in the fourth case the proportion of the force receiving the increase is not stated.

The only increase reported in the industry of men's ready-made clothing was an increase to all apprentices in one establishment. The amount of the increase is not stated.

In boot and shoe manufacturing, one establishment reports an increase of 5 per cent to pieceworkers, and another an increase of 10 per cent and a reduction of hours from 54 to 50.

In car building and repairing, one establishment reports an increase of 3 to 8 per cent to 80 per cent of the force, another an increase of 5 per cent to 90 per cent of the force, and a third an increase of 6 per cent to all.

In cigar manufacturing, increases are reported by five individual establishments, as follows: About 5 per cent to 85 per cent of the force; 5 to 10 per cent to all; 6 per cent to 75 per cent of the force; about 8 per cent to all; \$1 per thousand to cigar makers.

In the manufacture of paper, one establishment made an increase of 3 to 5 per cent to about 75 per cent of the force. Another establishment made an increase of 12½ per cent to 10 per cent of the force. In this industry, two increases in the nature of bonuses were made. In one establishment it was a 10 per cent bonus on December wages. In the other instance a bonus of 10 per cent was granted on wages for the first six months of the year in addition to what appears to have been a previous bonus of 10 per cent for that period and a bonus of 20 per cent was given on wages for the last six months, making the full bonus 20 per cent on wages for the entire year.

The only increase in the leather industry reported to the bureau was an increase of 9 per cent in the wage rates of 12 per cent of the force made by one establishment.

A few establishments misread the inquiry as to changes in wage rates and reported changes in the year preceding January 15, 1917, rather than in the month December 15, 1916, to January 15, 1917, with the statements so indefinitely made that the reports could not be used.

EMPLOYMENT IN THE STATE OF NEW YORK IN JANUARY, 1917.

The monthly statement issued by the New York State Department of Labor reads as follows:

EMPLOYMENT IN FACTORIES.

[Reported by 1,500 representative firms with over a half million employees, or one-third of the factory workers in the State, and a weekly pay roll of more than \$8,000,000.]

There was a slight recession of manufacturing activity in New York State in January. As compared with December, there were 1 per cent fewer employees and the amount of wages paid out decreased 2 per cent. This decrease was shared in generally by the industrial groups. The clothing group was the only one to show a gain both in employees and wages, while eight of the groups reported decreases both in employees and wages. Activity was greater in January, however, than in any other month, except the previous one, since returns have been received beginning in June, 1914.

The increase in January, 1917, as compared with January one year ago was 10 per cent in number of employees and 24 per cent in volume of wages. The increase

over January, two years ago, was 32 per cent in number of employees and 61 per cent in volume of wages.

The average earnings for a week of all employees, both males and females, included in the returns were in January, \$15.26 as compared with \$15.53 in December. This reflects the greater decrease in volume of wages as compared with that in number of employees referred to above. The average earnings for a week in January, 1916, were \$13.53, and in January, 1915, they were \$12.44.

The **stone, clay, and glass products** group reported in January decreases of 4 per cent in number of employees and of 6 per cent in amount of wages paid as compared with December. Lime, cement, and plaster mills, and brickyards reported seasonal decreases. As compared with January one year ago, there were one-eighth more employees and the pay roll was one-third larger.

The **metals, machinery, and conveyances** group had 1 per cent fewer employees and paid out 4 per cent less wages in January than in the preceding month. This is by far the most important of the groups both as to number of employees and in amount of wages paid. With the single exception of boat and ship building, each of the 12 industries in the group was less active than in December. As compared with January, 1916, the group as a whole employed one-sixth more workers and paid out one-third more wages.

The **wood manufactures** group had 1 per cent fewer employees and paid out 6 per cent less wages in January than in December. Each of the industries reported lessened activity. As compared with January one year ago, there were 7 per cent more employees and one-sixth more wages were paid.

The **furs, leather, and rubber goods** group reported 1 per cent fewer employees and 3 per cent less wages in January than in the previous month. The manufacture of footwear was the only industry in the group which maintained the December level of activity. As compared with January, 1916, the group as a whole employed one-eleventh more workers and paid out one-fourth more wages.

The **chemicals** group reported a negligible increase in the number of employees and 1 per cent decrease in the amount of wages in January as compared with December. Drugs and miscellaneous chemicals were slightly more active than in December, but paints and oils reported lessened activity. The group as a whole employed one-eighth more workers and paid out one-fourth more wages than in January, 1916.

The **paper industry** employed in January 1 per cent more workers than in December, thereby establishing a new high record. Slightly less wages were paid out, however, than in December. There were one-fifth more employees and one-fourth more wages than January one year ago.

The **printing and paper goods** group reported in January a negligible decrease in number of employees as compared with December and 1 per cent decrease in the volume of wages. As compared with January of last year, one-twentieth more workers were employed and one-tenth more wages were paid out.

The **textiles** group in January had slightly fewer workers than in December and paid out 2 per cent less wages. Silk goods alone of the industries in this group paid out more wages than in December, the other industries reporting a decrease. As compared with January, 1916, one-twentieth more workers were employed and one-fifth more wages were paid.

The **clothing, millinery, and laundering** group, the second largest group both as to number of employees and as to amount of wages paid included in these returns, had 3 per cent more employees and paid out 5 per cent more wages in January than in December. This favorable comparison with December was caused by increased activity, seasonal in character, in women's clothing and in millinery. Men's shirts and furnishings, and women's underwear were considerably less active. The group as a whole employed 4 per cent more workers and paid out 13 per cent more wages than in January, 1916.

The food, liquors, and tobacco group reported in January a reduction of 5 per cent in employees and of 4 per cent in amount of wages paid as compared with December. Miscellaneous groceries reported greater strength. The canning and preserving industry, the slaughtering industry, and the manufacture of confectionery showed the greatest decline since the previous month. As compared with January of last year the group as a whole employed 3 per cent more workers and paid out 17 per cent more wages.

The water, light, and power industry had 7 per cent fewer employees and paid out 4 per cent less in wages in January than in the previous month. As compared with one year ago there were 4 per cent more employees and 12 per cent more wages were paid.

BUILDING ACTIVITY IN PRINCIPAL CITIES.

[Reported by building departments.]

Building activity in New York State was 12 per cent less in January, 1917, than in December, 1916, and 20 per cent less than in January, 1916. These figures are based on returns from the 10 cities of the first and of the second class as to the estimated cost of building work (of which new buildings constituted four-fifths) for which permits have been issued. As compared with December, three cities—Albany, Binghamton, and Yonkers—reported increases. The other cities reported decreases, although the boroughs of Manhattan and The Bronx in New York City reported increases. As compared with January, 1916, four cities—Albany, Binghamton, Syracuse, and Yonkers—reported increases, while the other six cities reported decreases. The boroughs of Manhattan and Richmond reported increases but New York City as a whole reported a decrease.

PROFIT SHARING IN THE UNITED STATES.

In Bulletin No. 208 of the United States Bureau of Labor Statistics, Profit Sharing in the United States, two forms of profit sharing in operation in this country are classified—one under which distribution of a specific proportion of the net profits is made to at least one-third of the total number employed, including employees in occupations other than executive and clerical, and the other a limited profit-sharing plan under which less than one-third of the employees, excluding employees other than executives and clerks, are participants. There are, however, bonus and stock-purchase plans, popularly known as profit-sharing plans, involving payments of a percentage of earnings based on length of service, or distribution of stock subscriptions, but these are not, properly speaking, profit-sharing plans. The bulletin presents a careful examination and analysis, with statistical data, of all the plans in operation, describing in detail the arrangements in specific establishments and pointing out the factors which determine profits, the conditions under which they are distributed, the proportion of total employees who participate, the occupations or types of employment of participating employees, the benefits accruing to participating employees, the cost to employers, and the results secured through the operation of the plans.

There are known to be 60 establishments in the United States operating under the first plan, the profits distributed ranging from 2 to 100 per cent of wages. Payments mostly are made in cash, although in some cases stock is given. Thirteen of these firms are in Massachusetts; 26 are manufacturing establishments. Of 34 employers reporting, the cost to more than one-half was less than 6 per cent of their respective pay rolls. Five employers paid 20 per cent or over. In these 34 establishments 82.9 per cent of the employees participating were other than executives, clerks or salespeople. Of 37 establishments, 51.4 per cent reported 80 per cent or more of their employees participating.

The number of firms conducting a limited profit-sharing plan is very large. Of 17 reporting, almost all bar the wage earner or manual worker. In most of these the payments are made in cash, the usual practice being to set aside arbitrarily a percentage of the profits after meeting all legitimate expenses of the business, including interest on the investment. In 18 establishments approximately 74 per cent of the participating employees were executives, clerks or salespeople. In 10 of the establishments the proportion of participants was less than 10 per cent of the number employed.

Under many of the bonus plans the employee's share is merely a gift and bears no relation to profits realized. Three specific plans are described in detail, giving rules governing their operation, benefits accruing to employees, cost to employers, etc. One plant operating under this plan distributed in the first year to 69.7 per cent of all employed a total of \$8,434,849 on a regular pay roll of \$14,021,067.

These various actual and so-called profit-sharing plans have resulted in establishing more satisfactory relations between employers and employees and have contributed considerably to the stabilization of the working force, but employers are not agreed as to the results achieved with reference to increasing the individual or collective efficiency of participating employees.

RETAIL PRICES OF FOOD IN THE UNITED STATES.

Reports of retail prices of food received by the Bureau of Labor Statistics for January 15, 1917, show an increase of 1 per cent over December 15, 1916. Four articles decreased in price, sugar the most, 4 per cent. Four articles were the same on the two dates. The other articles advanced in price, the greatest increases being 22 per cent for onions and 13 per cent for potatoes.

The following table shows the relative prices and the average prices of the principal articles of food on December 15, 1916, and January 15, 1917. The inclusion of later price quotations for De-

cember 15, for the United States and for the cities here shown, has changed the average prices published in the February MONTHLY REVIEW.

AVERAGE MONEY RETAIL PRICES AND RELATIVE RETAIL PRICES OF FOOD ON DEC. 15, 1916, AND JAN. 15, 1917.

[The relative price shows the per cent that the average price on the 15th of each month was of the average price for the year 1916.]

Article.	Unit.	Average money price.		Relative price.	
		Dec. 15, 1916.	Jan. 15, 1917.	Dec. 15, 1916.	Jan. 15, 1917.
Sirloin steak.....	Pound.....	\$0. 268	\$0. 276	98	101
Round steak.....	do.....	. 240	. 247	98	101
Rib roast.....	do.....	. 210	. 216	99	102
Chuck roast.....	do.....	. 169	. 174	98	101
Plate boiling beef.....	do.....	. 128	. 132	100	103
Pork chops.....	do.....	. 222	. 236	98	104
Bacon.....	do.....	. 298	. 296	104	103
Ham.....	do.....	. 306	. 306	104	104
Lard.....	do.....	. 217	. 214	124	122
Hens.....	do.....	. 241	. 255	102	108
Salmon, canned.....	do.....	. 212	. 214	105	106
Eggs, strictly fresh.....	Dozen.....	. 529	. 544	141	145
Butter, creamery.....	Pound.....	. 449	. 453	114	115
Cheese.....	do.....	. 310	. 312	120	121
Milk.....	Quart.....	. 100	. 099	110	109
Bread.....	16-oz. loaf ¹.....	. 070	. 070	107	108
Flour.....	½-barrel bag.....	1. 337	1. 369	124	127
Corn meal.....	Pound.....	. 039	. 040	116	118
Rice.....	do.....	. 091	. 091	100	100
Potatoes.....	Peck.....	. 518	. 587	128	145
Onions.....	Pound.....	. 057	. 069	116	141
Beans, navy.....	do.....	. 143	. 145	130	132
Prunes.....	do.....	. 138	. 139	103	104
Raisins, seeded.....	do.....	. 139	. 141	108	109
Sugar.....	do.....	. 083	. 080	104	100
Coffee.....	do.....	. 299	. 299	100	100
Tea.....	do.....	. 546	. 546	100	100
All articles combined.....				111	112

¹ 16 ounces (weight of dough).

From January 15, 1913, to January 15, 1917, prices advanced 30 per cent, the greatest advance from year to year, 19 per cent, being from January 15, 1916, to January 15, 1917. Most of the articles showed a greater advance between January 15, 1916, and January 15, 1917, than between January 15, 1913, and January 15, 1916. Of the articles for which information is given for the four years, potatoes show the greatest increase, 146 per cent, but onions advanced more than potatoes between January 15, 1916, and the same date of the following year.

The table following shows in detail the average and relative retail prices for January 15 of each year from 1913 to 1917:

AVERAGE MONEY RETAIL PRICES AND RELATIVE RETAIL PRICES OF FOOD ON JAN. 15 OF EACH YEAR, 1913 TO 1917.

[The relative price shows the per cent that the average price on the 15th of January was of the average price of the year 1916.]

Article.	Unit.	Average money price Jan. 15.					Relative price Jan. 15.				
		1913	1914	1915	1916	1917	1913	1914	1915	1916	1917
Sirloin steak.....	Pound...	\$0.238	\$0.251	\$0.254	\$0.257	\$0.276	87	92	93	94	101
Round steak.....	do.....	.206	.228	.228	.228	.247	84	93	93	93	101
Rib roast.....	do.....	.187	.197	.199	.199	.216	88	93	94	94	102
Chuck roast.....	do.....		.169	.163	.162	.174		98	95	94	101
Plate boiling beef.....	do.....		.123	.124	.120	.132		96	97	94	103
Pork chops.....	do.....	.186	.207	.186	.186	.236	82	91	82	82	104
Bacon.....	do.....	.255	.264	.273	.273	.296	89	92	95	95	103
Ham.....	do.....	.253	.265	.265	.294	.306	86	90	90	100	104
Lard.....	do.....	.154	.158	.154	.175	.214	88	90	88	100	122
Hens.....	do.....	.203	.212	.203	.217	.255	86	90	86	92	108
Salmon, canned.....	do.....			.198	.200	.214			98	99	106
Eggs, strictly fresh.....	Dozen.....	.371	.435	.443	.424	.544	99	116	118	113	145
Butter, creamery.....	Pound.....	.410	.398	.386	.382	.453	104	101	98	97	115
Cheese.....	do.....			.232	.243	.312			90	94	121
Milk.....	Quart.....	.089	.091	.090	.089	.099	98	100	99	98	109
Bread.....	16-oz. loaf ¹.....		.055	.060	.062	.070		85	92	95	108
Flour.....	4-bbl. bag.....	.798	.787	.992	.959	1.369	74	73	92	89	127
Corn meal.....	Pound.....	.030	.031	.033	.032	.040	88	92	97	95	118
Rice.....	do.....			.091	.091	.091			100	100	100
Potatoes.....	Peck.....	.230	.284	.223	.356	.587	59	70	55	88	145
Onions.....	Pound.....			.034	.041	.069			69	83	141
Beans, navy.....	do.....			.073	.091	.145			66	83	132
Prunes.....	do.....			.137	.133	.139			102	99	104
Raisins, seeded.....	do.....			.125	.126	.141			97	98	109
Sugar.....	do.....	.058	.052	.060	.067	.080	73	65	75	84	100
Coffee.....	do.....			.299	.299	.299			100	100	100
Tea.....	do.....			.546	.546	.546			100	100	100
All articles combined.....							86	91	91	94	112

¹ 16 ounces (weight of dough).

RETAIL PRICES IN CHICAGO, ILL.

In Chicago, Ill., the combined price of the same articles of food, was the same on January 15, 1915, and January 15, 1916, but was 19 per cent higher in December, 1916, than on these dates, and was 5 per cent higher on January 15, 1917, than on December 15, 1916. For the separate articles onions made the greatest advance—in January over December, 22 per cent—followed by potatoes and eggs, each 16 per cent, and pork chops 13 per cent. Four articles declined slightly during the month.

From January, 1916, to January, 1917, all articles except rice, coffee, and tea, advanced from 81 per cent for beans to 1 per cent for sliced ham.

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AVERAGE MONEY RETAIL PRICES AND RELATIVE RETAIL PRICES IN CHICAGO,
ILL., ON JAN. 15, 1915, 1916, AND 1917, AND ON DEC. 15, 1916.

[The relative price shows the per cent that the average price on the 15th of each month was, of the average price for the year 1916.]

Article.	Unit.	Average price.				Relative price.			
		January—		Dec.	Jan.	January—		Dec.	Jan.
		1915.	1916.	15, 1916.	15, 1917.	1915.	1916.	15, 1916.	15, 1917.
Sirloin steak.....	Pound.....	\$0. 252	\$0. 252	\$0. 266	\$0. 268	93	93	98	99
Round steak.....	do.....	. 215	. 206	. 224	. 228	95	91	99	101
Rib roast.....	do.....	. 212	. 204	. 219	. 221	97	93	100	101
Chuck roast.....	do.....	. 175	. 155	. 167	. 169	105	93	100	101
Plate boiling beef.....	do.....	. 129	. 121	. 132	. 131	102	96	105	104
Pork chops.....	do.....	. 171	. 169	. 205	. 232	81	80	97	110
Bacon, smoked, sliced.....	do.....	. 280	. 292	. 321	. 321	93	97	101	101
Ham, smoked, sliced.....	do.....	. 303	. 297	. 349	. 339	98	96	100	97
Lard.....	do.....	. 144	. 134	. 208	. 206	87	81	125	124
Hens.....	do.....	. 177	. 201	. 221	. 241	80	91	100	109
Salmon, canned.....	do.....	. 227	. 229	. 236	. 241	97	98	101	103
Eggs, strictly fresh.....	Dozen.....	. 446	. 395	. 470	. 544	132	117	139	161
Butter, creamery.....	Pound.....	. 367	. 367	. 438	. 446	97	97	116	118
Cheese.....	do.....	. 231	. 246	. 325	. 320	88	94	124	122
Milk.....	Quart.....	. 080	. 080	. 090	. 090	95	95	107	107
Bread.....	16-ounce loaf ¹.....	. 057	. 058	. 071	. 073	94	95	117	119
Flour.....	4-barrel bag.....	. 872	. 843	1. 225	1. 245	89	86	125	127
Corn meal.....	Pound.....	. 031	. 032	. 038	. 039	95	96	114	118
Rice.....	do.....	. 098	. 095	. 094	. 094	104	101	100	100
Potatoes.....	Peck.....	. 199	. 330	. 503	. 585	53	88	134	156
Onions.....	Pound.....	. 033	. 042	. 052	. 063	70	90	111	135
Beans, navy.....	do.....	. 065	. 082	. 146	. 147	61	77	138	139
Prunes.....	do.....	. 135	. 131	. 138	. 140	103	100	105	107
Raisins, seeded.....	do.....	. 127	. 124	. 150	. 150	96	94	114	114
Sugar.....	do.....	. 056	. 060	. 072	. 073	77	82	99	100
Coffee.....	do.....	. 300	. 300	. 300	. 300	100	100	100	100
Tea.....	do.....	. 525	. 525	. 525	. 525	100	100	100	100
All articles combined.....						93	93	111	116

¹ 16 ounces (weight of dough).

RETAIL PRICES OF FOOD IN NEW YORK CITY.

In New York City prices were 5 per cent higher on January 15, 1917, than on the 15th of the preceding month, and 21 per cent higher than on the 15th of January of the previous year. As in the preceding tables, the greatest advances from December 15, 1916, to January 15, 1917, appear in potatoes and onions, 24 and 11 per cent, respectively. Eggs also advanced 11 per cent. Six articles declined in price. From January 15, 1916, to January 15, 1917, only 1 article declined in price. Beans advanced 71 per cent, and potatoes 70 per cent.

AVERAGE MONEY RETAIL PRICES AND RELATIVE RETAIL PRICES IN NEW YORK CITY, ON JANUARY 15, 1915, 1916, AND 1917, AND ON DECEMBER 15, 1916.

[The relative price shows the per cent that the average price on the 15th of each month was of the average price for the year 1916.]

Article.	Unit.	Average price.				Relative price.			
		Jan. 15—		Dec. 15, 1916.	Jan. 15, 1917.	Jan. 15—		Dec. 15, 1916.	Jan. 15, 1917.
		1915	1916			1915	1916		
Sirloin steak.....	Pound.....	\$0.253	\$0.261	\$0.278	\$0.284	90	93	99	101
Round steak.....	do.....	.256	.256	.270	.275	93	93	98	100
Rib roast.....	do.....	.208	.217	.229	.238	90	94	99	103
Chuck roast.....	do.....	.156	.163	.166	.171	90	94	96	99
Plate boiling beef.....	do.....	.147	.150	.158	.160	93	95	100	101
Pork chops.....	do.....	.218	.226	.258	.279	82	85	97	105
Bacon, sliced.....	do.....	.251	.248	.272	.275	95	94	103	104
Ham, whole.....	do.....	.185	.194	.228	.226	86	90	106	105
Lard.....	do.....	.154	.147	.216	.213	89	85	125	123
Hens.....	do.....	.206	.216	.252	.262	84	88	103	107
Salmon, canned.....	do.....	.241	.241	.243	.253	100	100	101	105
Eggs, strictly fresh.....	Dozen.....	.485	.436	.570	.634	120	108	141	157
Butter, creamery.....	Pound.....	.383	.383	.446	.457	98	98	114	117
Cheese.....	do.....	.235	.233	.289	.299	96	95	118	122
Milk.....	Quart.....	.090	.090	.098	.100	98	98	107	109
Bread.....	16-ounce loaf ¹.....	.055	.057	.069	.068	92	95	115	114
Flour.....	4-barrel bag.....	1.003	1.003	1.345	1.356	91	91	122	123
Corn meal.....	Pound.....	.039	.042	.047	.049	92	100	113	116
Rice.....	do.....	.093	.092	.093	.090	102	101	102	99
Potatoes.....	Peck.....	.302	.418	.571	.710	63	87	119	148
Onions.....	Pound.....	.043	.051	.063	.070	76	89	111	123
Beans, navy.....	do.....	.082	.089	.152	.151	76	82	141	140
Prunes.....	do.....	.142	.133	.139	.139	106	99	104	104
Raisins, seeded.....	do.....	.120	.124	.134	.136	96	99	107	109
Sugar.....	do.....	.053	.063	.079	.076	71	84	105	101
Coffee.....	do.....	.266	.263	.263	.263	101	100	100	100
Tea.....	do.....	.449	.454	.454	.454	99	100	100	100
All articles combined.....						93	95	110	115

¹ 16 ounces (weight of dough).

RETAIL PRICES OF FOOD IN PHILADELPHIA, PA.

In Philadelphia prices were 4 per cent higher on January 15, 1917, than on the 15th of the preceding month and 22 per cent higher than on January 15 of the previous year.

As in other cities potatoes and onions made the most noticeable advances, both from December 15, 1916, to January 15, 1917, and from January 15, 1916, to the same date in 1917.

AVERAGE MONEY RETAIL PRICES AND RELATIVE RETAIL PRICES IN PHILADELPHIA, PA., ON JAN. 15, 1915, 1916, AND 1917, AND ON DEC. 15, 1916.

[The relative price shows the per cent that the average price on the 15th of each month was of the average price for the year 1916.]

Article.	Unit.	Average price.				Relative price.			
		January—		Dec. 15, 1916.	Jan. 15, 1917.	January—		Dec. 15, 1916.	Jan. 15, 1917.
		1915	1916			1915	1916		
Sirloin steak.....	Pound.....	\$0.293	\$0.306	\$0.319	\$0.325	90	94	98	100
Round steak.....	do.....	.252	.260	.275	.283	89	92	97	100
Rib roast.....	do.....	.207	.210	.231	.235	89	90	99	101
Chuck roast.....	do.....	.176	.176	.189	.195	92	92	99	102
Plate boiling beef.....	do.....	.121	.120	.126	.126	96	95	100	100
Pork chops.....	do.....	.194	.201	.240	.249	80	83	99	103
Bacon, sliced.....	do.....	.264	.261	.298	.298	93	92	105	105
Ham, sliced.....	do.....	.286	.296	.357	.360	88	91	104	105
Lard.....	do.....	.148	.141	.216	.211	84	80	123	120
Hens.....	do.....	.231	.234	.279	.276	88	89	106	105
Salmon, canned.....	do.....	.178	.176	.187	.189	100	99	105	106
Eggs, strictly fresh.....	Dozen.....	.510	.447	.561	.627	130	114	143	160
Butter, creamery.....	Pound.....	.457	.452	.502	.511	101	100	111	113
Cheese.....	do.....	.238	.246	.309	.317	91	94	118	121
Milk.....	Quart.....	.079	.079	.087	.089	98	98	108	110
Bread.....	16-ounce loaf ¹	.042	.045	.053	.053	89	95	113	113
Flour.....	1-barrel bag.....	.970	.970	1.348	1.380	90	90	125	128
Corn meal.....	Pound.....	.028	.028	.039	.039	94	94	129	131
Rice.....	do.....	.094	.092	.096	.095	100	98	102	101
Potatoes.....	Peck.....	.266	.387	.594	.684	59	86	132	152
Onions.....	Pound.....	.030	.044	.063	.077	59	87	126	153
Beans, navy.....	do.....	.072	.089	.139	.142	71	87	136	139
Prunes.....	do.....	.139	.134	.140	.139	103	99	104	103
Raisins, seeded.....	do.....	.126	.121	.131	.127	103	99	107	104
Sugar.....	do.....	.054	.065	.077	.077	72	86	103	102
Coffee.....	do.....	.288	.285	.285	.282	101	100	100	99
Tea.....	do.....	.544	.554	.544	.544	99	101	99	99
All articles combined.....						92	94	111	115

¹ 16 ounces (weight of dough).

GOVERNMENT CONTROL OF FOOD SUPPLIES IN EUROPEAN COUNTRIES.

INTRODUCTION.

An important upward movement of the price level of commodities in a given country invariably gives rise to much disturbance in the body politic—disturbance commonly taking the form in the first instance of protestations and recriminations on the part of those classes or groups in the community whose own incomes or earnings respond least readily and rapidly to the causes to which the price advance is attributable. Until the process of general adjustment is nearly or quite completed these groups or classes suffer real hardships from the insufficiency of their incomes to meet the added expense of living in the manner to which they have become accustomed. Their plight is rendered all the less easy to bear because they see all about them evidences of the unusual prosperity of other classes or groups, whose economic position is such that increasing prices for commodities are transmuted for them into abnormal business profits and hence abnormally large incomes.

It is of course in connection with the high cost of food that an enhancement of prices is most acutely felt. Except perhaps for shelter from the elements, here is the first and, in the case of the great majority, the heaviest and at the same time the least escapable charge upon income. And there is this peculiarity about food that its obvious absolute necessity for existence breeds in average human beings a kind of subconscious belief that they have a natural right to it, and upon terms that are comfortable to themselves. When food prices rise sharply, therefore, the average

man, who is himself severely pinched to make both ends meet, but who observes his neighbor aboundingly prosperous by reason of the very phenomena that are correlated with his own trouble, jumps easily to the conclusion that an unfair advantage is somehow being taken of him by that neighbor, that he is a victim of injustice at his neighbor's hands, and steps ought to be taken by those in authority to set the injustice right.¹

In ordinary times the authorities have as a rule been loath to take measures for the control of food supplies and have abstained from interfering with the established machinery of food distribution. During war times the attitude of the authorities is necessarily entirely different. With army and navy on a war footing the government must feed a much larger number of men and animals than in peace times. By assuming control of all food supplies and their distribution and fixing maximum prices for them the government not only insures a sufficient supply for the troops, but by preventing corners in foodstuffs and consequent excessive enhancement of prices also saves millions to the treasury. To conduct a war successfully a government must, moreover, have the full support of the great masses of its people, which can only be secured and maintained if these masses are enabled to procure the prime necessities of life in sufficient quantity and at reasonable prices. Besides, in case of actual scarcity of food, caused either by blockade or difficulties of transportation, the government is the only agency which can insure proper distribution of the scant supplies.

For all these reasons and for many lesser not enumerated here we find that during the present world war the governments of all the belligerent and neutral countries in Europe have taken far-reaching measures for the control of food supplies, and some of these measures in reality involve no less than the setting aside of the established order of things and the reconstruction of the very fabric of the community and of the state.

To compile a collection or even a digest of the enormous number of laws, decrees, and orders of central, local, and military authorities relating to control of food supplies, which were promulgated in the last two and one-half years in the various countries at war and in neutral countries, would result in a work filling volumes² and can not be attempted within the space allotted to the present article. A large number of the laws and decrees have, moreover, been many times amended since their enactment. For the above reasons the present article has been restricted to a very brief summary of meas-

¹ "Government expedients for controlling the high cost of food," by Arthur Richmond Marsh. *Economic World*, New York, Dec. 9, 1916, p. 747.

² Such a compilation is being published by the Italian ministry of industry, commerce, and labor (*Direzione Generale del Credito e della Previdenza*) "Provedimenti in materia di economia e finanza emanati in * * * in seguito alla guerra europea" (*Annali del credito e della previdenza*. Series II, vols. 10 (3 parts), 11, 12, 13, 14, and 16). The volumes so far published relate to Italy, France, Great Britain, Austria, Germany, and Switzerland, and include only measures enacted up to the end of 1915.

ures relating to food control recently enacted and in force to-day. For measures enacted at the beginning of the war, reference should be had to Bulletin No. 170 (Foreign Food Prices as Affected by the War) of this bureau.

By way of preface it should be remarked that for nearly a year hardly any official publications have been received in Washington from the Central Powers, and that official publications from other European countries have been received irregularly and greatly delayed. In the preparation of this article recourse was had therefore to consular reports, correspondence of the daily press, and articles in foreign and American magazines. The measures as to food control taken by the British Government are summarized below. Like measures of other governments will be summarized and will be published in the MONTHLY REVIEW for April.

GREAT BRITAIN.

UNREASONABLE WITHHOLDING OF FOOD SUPPLIES ACT.

During the first months of the present war an abundance of food supplies from British colonies and foreign countries permitted the British Government to concentrate all its activities on the enlargement, outfitting, and training of its military and naval establishments and it gave but scant attention to regulation of the food supply for the civilian population. To protect, however, the population from corners in foodstuffs a very broad law was enacted on August 14, 1914, under the title, "Unreasonable withholding of food supplies act, 1914." This act provides that "if the Board of Trade are of the opinion that any foodstuff is being unreasonably withheld from the market, they may, if so authorized by His Majesty's proclamation (made generally or as respects any particular kind of foodstuff) and in manner provided by the proclamation, take possession of any supplies of foodstuff to which the proclamation relates, paying to the owners of the supplies such price as may in default of agreement be decided to be reasonable, having regard to all circumstances of the case, by the arbitration of a judge of the high court, selected by the lord chief justice of England." No proclamation was ever made under this power.

ROYAL COMMISSION ON SUGAR SUPPLIES.

Sugar is the only foodstuff of the supply of which the Government took charge during the early stages of the war, and this for the reason that for the supply of this article the United Kingdom is largely dependent on importation. On September 11, 1914, the London Gazette announced the appointment of a royal commission to inquire into the supply of sugar in the United Kingdom, to purchase, sell, and control the delivery of sugar, and generally to take such steps as may seem desirable for maintaining the supply.

DEPARTMENTAL COMMITTEES ON THE HOME PRODUCTION OF FOOD.

With the exception of various orders prohibiting the export of specified foodstuffs, no further measures relating to the food supply were taken by the Government until June 17, 1915. On this date the president of the board of agriculture and fisheries appointed a departmental committee "to consider and report what steps should be taken, by legislation or otherwise, for the sole purpose of maintaining and, if possible, increasing the present production of food in England and Wales, on the assumption that the war may be prolonged beyond the harvest of 1916." On June 23, the secretary for Scotland appointed a committee to consider the same question in its application to Scotland, and on June 28 the vice president of the department of agriculture and technical instruction for Ireland committed an identical reference to a committee for Ireland.¹

The English committee was presided over by Viscount Milner, and included representatives of the three political parties, together with men whose familiarity with the present condition of agricultural affairs is beyond question. It did not consider itself called upon, by the terms of its reference, to inquire into the nature and extent of any possible shortage of imported food supplies, for it felt that the Government alone was competent to judge of this, but it confined itself to the consideration of the steps which could be taken, assuming that an emergency might exist after the harvest of 1916. Recognizing that quick action was necessary, the committee met frequently and presented an interim report (Cd. 8048) on July 17, 1915.

In this report it was laid down that the main problem was how to increase the area under wheat, 95 per cent of the home supply of which is produced in England and Wales. The committee concluded that this could only be solved by extending largely the area of land under tillage. This would enable more of the existing arable area to be put down in wheat, leaving the newly broken-up land for the other necessary crops, thus displaced, such as oats and potatoes. The committee recognized that in advocating this course they were inviting farmers, and to a lesser extent landlords also, to adopt a policy of management bolder than many of them might think warranted by the conditions. To induce farmers and landlords to throw over their present methods, with their comparative security of profits, and to undertake the responsibility of increased arable area in the face of certain shortage of labor and a possible fall in grain prices at the conclusion of the war, the committee proposed the guaranteeing of a minimum price of 45 shillings a quarter (\$1.30 a bushel)² for all marketable home-grown wheat for a period of four years. This very remarkable recommendation becomes the more noteworthy when the

¹ "The report of the departmental committee on the home production of food." *Economic Journal*, vol. 26, No. 101. London, March, 1916, pp. 105 ff.

² Based on 504 pounds to the quarter. See p. 402.

composition of the committee making it is borne in mind, for here are representatives of the Liberal and Labor parties advocating what amounts to a bounty on home-grown wheat.

The committee recognized that a guaranteed price for wheat should entail upon the farmer the obligation to pay a fair rate of wages to his laborers; in fact, some members were evidently in favor of accompanying the minimum price with a minimum wage. They contented themselves, however, with recommending that an inquiry into wages and earnings should be instituted at once. An appendix to the report describes the procedure recommended for securing a breaking up of land and the cropping of it to the maximum advantage.

After consideration of the interim report, the Government decided not to adopt the recommendation of a guaranteed minimum price for wheat. On October 15, 1915, the committee presented their final report (Cd. 8095) and notwithstanding the refusal of the Government to adopt the recommendation of the interim report the committee again took the opportunity of stating their firm conviction that the conversion of arable land into grass, which has taken place to the extent of nearly 4,000,000 acres during the last forty years and is still going on, was bound to result in a diminution of the food produced, and that much of this land would carry more stock under the plough, whilst at the same time producing corn for human consumption. The remainder of the final report dealt with the provision of fertilizers and feed, increased attention to pig breeding, labor, labor-saving machinery, and the employment of women. Attention was also called to the use of waste land in towns and villages for the production of vegetables. The committee was not able to recommend the establishment of a reserve of wheat. Two members of the committee refrained from signing the final report and presented a minority report to the effect that they regarded the recommendations put forward by their colleagues as applying to conditions after the war, which were outside the terms of the reference.

The report of the Scotch committee (which bears no date) was signed by all the members, and in it the suggestions for the maintenance or increase of the food supplies of the country are grouped under three heads: (1) Increased production, (2) Avoidance of waste, and (3) Using sources of supply not at present available. Dealing with the first of these, the Scotch committee avoided the controversial questions of the English committee. The advisability of resorting to artificial means to stimulate the production of wheat was considered by the committee, and some of the witnesses gave evidence in favor of a guaranteed minimum price, but they did not see their way to overcome the practical difficulties likely to arise. The committee also considered the question of the compulsory conversion of grassland, but doubted the practicability of setting up

the necessary administration for scheduling the land to be broken up. All the recommendations as to the increase are of a practical nature. They relate to such matters as the more general use of artificial manures, and the restriction of their export; the advantages derived from frequent changes of seed; lower freight rates for agricultural seeds and live stock for breeding purposes, etc. On the question of labor as related to increased production, the committee recommended that representations should be made to the military authorities that any attempt to increase or even to maintain food production would be made impossible by a further withdrawal of experienced workers from agriculture. The recommendations as to the avoidance of waste deal mainly with the conflicting interests of the game preserver and the food producer. As to the utilization of sources of supply not at present available it was suggested that local committees should be established for the stimulation of production in every possible direction, and the constitution of these committees was outlined.

The Irish committee presented its report on August 19, 1915, signed with certain reservations by all the members except two, and one of these, Sir Horace Plunkett, presented a minority report. The committee were impressed with the necessity of increasing the area under wheat, just as the English committee had been, and they recommended that the Government should guarantee a minimum price for oats and wheat for one year, recording their opinion that having regard to the risk of loss run by the farmer in breaking up grass, there would be no departure from sound economic policy in agreeing to a minimum price to secure him. No actual figures were suggested for the guaranty. In the second place, the committee recognized the difficulty which confronts all communities of small land holders, namely, how to obtain the advantages of labor-saving implements and machinery. The committee indorsed the action already taken in certain parts of the country in the establishment of cooperative implement societies with the aid of loans from the department of agriculture and technical instruction, and recommended the extension of the scheme. A system of loans for the provision of boats and gear for the capture of fish was also recommended.

CONTROL OF SUPPLIES OF "ARTICLES OF COMMERCE" BY THE BOARD OF TRADE.

In the latter part of the year 1916 it had become practically certain that in the event of the war becoming very protracted, the food problem would sooner or later require drastic handling, for, while Great Britain is in the position of having in one sense the world's supplies at its command, with the progress of the war, great and increasing difficulties have to be overcome before commodities, which may be near or far, can be brought to the markets of the United

Kingdom and distributed for the advantage of the population. Canada, Australia, India, the United States, and other neutral countries may have supplies greatly in excess of their own requirements, but if transport and man power for their movement and handling are not available the existence of large quantities of food-stuffs can not be of benefit to the British population.

The mercantile marine in its entirety is no longer at the disposition of the individual. A great part of it is in the service of the nation, and on top of the extensive diversion of merchant ships for purposes of war has been the heavy toll taken by the submarine craft of the enemy, and this at a time when the shipbuilding yards of the country, owing to the lack of skilled labor and the paramount needs of the navy, have been compelled to reduce their output considerably.

Cognizant of this situation, the Government, in the fall of 1916, took steps which close observers had for some time regarded as inevitable for the more effective organization and control of Great Britain's food supplies, and which the authorities had been frequently criticized for delaying. On October 10, 1916, Mr. Runciman, president of the Board of Trade, made the following statement in the House of Commons: ¹

Since the outbreak of the war the Government has taken measures, which have progressively become more comprehensive, to insure that the stocks of wheat in the country are sufficiently maintained to guard against any temporary interference with over-sea supplies. In 1914 the grain supplies committee was formed to undertake the purchase of wheat as a reserve against the risk of a temporary interruption of supplies, but the regular trade was left in private hands.

Early in 1915 the Indian wheat committee was formed to secure, in cooperation with the Indian Government, that the surplus of the Indian wheat crop was brought to the United Kingdom at a time when, by reason of the delay of the harvest in North America, imported supplies were somewhat short.

At the end of that year the Government suggested to the French and Italian Governments that cooperation was better than competition between the allies in the wheat markets, and as a result a joint committee was formed comprising representatives of the United Kingdom, France, and Italy, which has since met daily in London, and made such purchases of wheat, flour, and corn as were requisite for the three countries.

The possibility of large quantities of wheat, which are at present locked up in some grain exporting countries, being freed as the result of military operations, has led to the disinclination on the part of the trade to hold more stocks than an absolute minimum, and it has become clear that the supplies during the coming year can not safely be left to private enterprise.

The Government has accordingly indorsed a conclusion arrived at by the cabinet committee on food supplies that we must now provide for a further development of importation by the State. The King has approved the appointment of a royal commission intrusted with full power to take such steps as it may deem necessary and desirable to insure adequate and regular supplies of wheat and flour for the United Kingdom in cooperation with the committee which, since the beginning of the present year, has been purchasing wheat and flour for the allies.

¹ "Great Britain's control of food." *The Northwestern Miller*, Minneapolis, Nov. 8, 1916, pp. 377, 378.

This means that the importation of wheat into the United Kingdom will have to be undertaken largely, if not entirely, under the control of the royal commission, which will in many respects avail itself of the experience of the sugar commission.

In anticipation of this step the Government has made a very large purchase of Australian wheat. The competition of the world for tonnage last season was greater than the eagerness for wheat, and the Commonwealth government, which had purchased the whole of its crop, found itself with granaries full, but short of facilities for reaching the European markets.

Steps have now been taken to provide all the tonnage required for the conveyance of the wheat purchased by His Majesty's Government. Tonnage for the carriage of wheat across the Atlantic has been provided for nearly a year, with excellent results, by the requisitioning (carriage of foodstuffs) committee.

As the import of wheat into this country will in future be in the hands of the State, and the full benefit of reduction in the cost of carriage will accrue to the State, and not to private individuals, the system adopted by the committee will be continued, with the addition that vessels so requisitioned will be required to provide the space necessary for State importations at fixed, and not variable, rates of freight.

Further details for the guidance of the corn exchanges will be published expeditiously, and arrangements have already been made, in cooperation with the trade, to prevent any interruption in the regular and adequate supply of wheat to the British and Irish mills during the short transition stage.

Having in this manner indicated its plan of action, the Government, under the wide powers conferred upon it by the "Defense of the Realm Consolidation Act, 1914," on November 16, 1916, issued an order in council, further amended on December 5 and 22, 1916, which gave to the Board of Trade full control of "any articles of commerce, the maintenance of which is important as being part of the food supplies of the country, or as being necessary for the wants of the public or for the wants of any section of the public." (The full text of these orders in council is reprinted at the end of the present article.)

Under these orders the Board of Trade has the power to regulate waste or unnecessary destruction of articles, their use, manner of manufacture, mode of sale and of market operations; to determine maximum prices; to requisition supplies; to obtain information as to stocks, etc.; to hold inquiries and administer oaths for this purpose; to transfer its powers to other Government departments, and to make entry on occupied or unoccupied land and to cultivate it.

In connection with the above orders, special correspondence of the *Annalist* from London, dated November 16, 1916,¹ intimates that—

The Government has no immediate intention of actually limiting the supply of bread, sugar, milk, and other commodities per individual, but it is convinced of the necessity of curtailing consumption, if not by one means then by another and more drastic, and it will really rest with the public whether the authorities are finally compelled to resort to distribution by food tickets.

Up to the present date the Board of Trade has limited itself to the appointment of a food controller, the regulation of prices of milk,

¹ "Averting a food crisis." *The Annalist*, New York, Dec. 4, 1916, p. 712.

wheat, oats, and potatoes, the regulation of the milling of flour, restrictions on dealings in seed potatoes, and the taking of a few other similar measures. Digests of the orders relating thereto are given below.

FOOD CONTROL DEPARTMENT.

The British Board of Trade Journal of December 14, 1916, reports that it is officially announced that Lord Davenport, as food controller, will henceforth be responsible for administering the recent defense of the realm regulations for the purpose of regulating supplies and prices of food, and for other action in connection with food control. During the first month after his appointment the food controller was dependent upon the Board of Trade for the issuance of orders, since the necessary arrangements for the transfer to him of part of the powers of the Board of Trade had not been completed. However, an order in council published in the London Gazette of January 12, 1917, conferred on him all the powers of the Board of Trade in connection with food control.

REGULATION OF THE PRICE OF MILK.¹

The price of milk has been regulated by two orders, the so-called price of milk orders Nos. 1 and 2. The latter is dated December 12, 1916, and amends the first, issued some weeks earlier. They fix maximum prices for both the wholesale and retail trade by stipulating that the price may not exceed by more than a specified amount the price in the corresponding month before the war. This amount is 2d. (4 cents) per quart in the case of retail milk. In the wholesale trade 6½d. (13 cents) per imperial gallon may be added to the prewar price if the milk is delivered on the premises of the buyer and these premises are not used as a creamery or factory, and the conditions of sale include an obligation to deliver not less than a specified minimum, and 5½d. (11 cents) per imperial gallon in other cases. The maximum price for "accommodation" milk is raised to 1s. 8d. (41 cents) per imperial gallon, inclusive of all charges for transport to the railway station at which delivery is taken by the purchaser. Contracts for the sale of milk made on or before November 15, 1916, will be allowed to remain valid for their full period (up to Apr. 1, 1917) even if the price stipulated exceeds that otherwise permissible.

FLOUR AND BREAD ORDERS.²

On November 21, 1916, the Board of Trade issued a milling order which fixes for the United Kingdom the percentages of flour that must be extracted from wheat of various origin and qualities. Two subsequent orders issued by the food controller enlarged the scope of the first order. The principal qualities shown in the schedules of

¹ Board of Trade Journal (Great Britain), Nov. 23, 1916, p. 570, and Dec. 21, 1916, pp. 860, 861.

² Board of Trade Journal (Great Britain), Nov. 23, 1916, pp. 570, 571; Dec. 14, 1916, pp. 793, 794; Dec. 21, 1916, p. 860.

these three orders, together with the percentage of flour to be extracted from them, are the following:

Quality.	Percentage.
English.....	76
Scotch.....	75
Irish.....	76
Choice Bombay.....	78
Walla Walla.....	75
No. 2 red western.....	76
No. 2 red winter.....	74
No. 2 new hard winter (1916).....	76
No. 1 northern Duluth.....	75
No. 1 northern Manitoba, old crop.....	76
No. 1 northern Manitoba, new crop.....	75
No. 2 Chicago spring 1915 crop.....	72
Blue stem.....	76
Australian.....	78
Choice white Karachi.....	75
Barletta-Russo, 61½ pounds.....	74

In the case of millers grinding exclusively native wheat (English, Scotch, and Irish) an allowance of 1 per cent will be allowed in the percentage of flour to be extracted, i. e., in milling such wheats they must extract from English or Irish wheat 75 per cent, and from Scotch wheat 74 per cent.

The first milling order provides that, beginning with November 27, 1916, no flour may be milled, except in accordance with the schedules issued. On and after January 1, 1917, only flour milled in accordance with the schedules may be used for making bread or any other article of food. The order states that the percentages shown in the schedules must be regarded as strictly provisional and subject to amendment.

In consideration of the effect of the milling order in regard to the use of flour for sizing purposes, the food controller will grant licenses for milling, otherwise than in accordance with the terms of the order, subject to the following conditions:

(1) That the flour extracted from the wheat so milled, though it may be divided for this special purpose, does not fall below the percentage specified from time to time by order for that class of wheat.

(2) That the miller guarantees that the flour so milled will be delivered to his regular customers for sizing purposes only, and that the amount so delivered to each customer does not exceed the amount of flour ordinarily supplied to him for that purpose.

The Board of Trade Journal (Nov. 23, 1916) states that a subsequent order will be issued, requiring periodical returns of stocks of wheat received and of flour and offals milled and of all stocks in hand on the date of the milling order coming into operation, i. e., November 27, 1916.

According to an American trade paper,¹ the net effect of the milling order will be that millers will have to make a long straight grade of flour of about 76 per cent; that is, striking an average of all wheats. This will mean that the United Kingdom will continue to eat white bread, though not quite so white as before the coming in effect of the new order.

A special cable of January 12, 1917, to the Northwestern Miller,² the contents of which are confirmed by a correspondence from London to the Christian Science Monitor,³ states that new milling regulations have been issued, according to which, after January 29, British millers must add to the previously fixed percentages to be extracted from wheat a further percentage, not less than 5 per cent, either by further milling of the wheat or by the addition of flour derived from barley, oats, corn, or rice. This addition at the option of the miller may be raised to 10 per cent.

PROHIBITION OF USE OF WHEAT IN MANUFACTURE OF BEER, ETC.⁴

It having been reported to the Board of Trade that, in consequence of the scarcity and high price of barley, purchases of wheat have recently been made by brewers for use in their business, the Board of Trade issued an order, effective November 27, 1916, prohibiting the use of wheat in the manufacture of beer and similar liquors.

The use of any grain for the production of spirits, without the authorization of the ministry of munitions, was prohibited by an order dated May 10, 1916.

COMPULSORY RETURNS OF STOCKS OF POTATOES.⁵

Under date of November 20, 1916, the Board of Trade issued an order requiring a return of stocks of potatoes in Great Britain. Under this order a return of stocks of potatoes and contracts must be made not later than December 7, 1916, by all persons cultivating more than 10 acres of potatoes on any holding in Great Britain. The Board of Trade has made arrangements with the board of agriculture for England and Wales and the board of agriculture for Scotland to collect and compile the returns on its behalf, and to exercise the powers conferred by the defense of the realm regulations on the Board of Trade for this purpose.

RESTRICTIONS ON DEALINGS IN SEED POTATOES.⁶

At the request of the food controller, and in consultation with the board of agriculture for England and Wales, and the department of agriculture and technical instruction for Ireland, the Board of

¹ The Weekly Northwestern Miller, Minneapolis, Dec. 20, 1916, p. 819.

² Idem, Jan. 17, 1917, p. 109.

³ The Christian Science Monitor, Boston, Feb. 10, 1917, p. 3.

⁴ Board of Trade Journal (Great Britain), Nov. 30, 1916, p. 655.

⁵ Idem, Nov. 23, 1916, p. 571.

⁶ Idem, Dec. 21, 1916, pp. 861-863.

Trade has issued two orders designed to safeguard the supply of seed potatoes for next year's crop. One of these orders is applicable in Great Britain and the other in Ireland.

The order applicable in Great Britain does not affect existing contracts for potatoes intended solely for seed purposes; the fulfillment, however, of contracts for the sale of potatoes for other purposes may be interfered with by the terms of the order. Briefly summarized, the operative provisions of the order are as follows:

(1) Seed potatoes shall be used for the purposes of seed only; this provision, however, not to affect the use of potatoes in his own household by a grower not being a grower for sale.

(2) The sale of seed potatoes to any person other than an authorized purchaser, and the buying of such potatoes by any person other than an authorized purchaser, is prohibited. For the purpose of this provision, an authorized purchaser is defined as a person dealing in seed potatoes in the way of his trade or business, or a person who shall, on the occasion of the sale of seed potatoes to him, certify in writing to the vendor thereof that the potatoes comprised in such sale are required and intended to be used for the purposes of seed.

(3) The order does not affect seed potatoes which are diseased or blemished, or which, under any order issued under the destructive insects and pests acts, 1877 and 1907, may not be used for seed.

(4) Persons contravening against these provisions are guilty of a summary offense against the defense of the realm regulations.

(5) In order to be considered as seed potatoes the potatoes must conform to a description or variety and to a specified size, indicated in a schedule appended to the order.

The order became effective December 18, 1916, and is to remain in force until March 15, 1917.

An order applicable to Ireland was drafted on nearly identical lines as the order applicable to Great Britain, and in addition contains a provision limiting the right to export potatoes from Ireland to persons expressly licensed for that purpose by the department of agriculture and technical instruction.

DISTRIBUTION OF SEED POTATOES.

The Board of Trade Journal ¹ announces that arrangements have been made by the department of agriculture and fisheries with the treasury to finance a scheme for the distribution of seed potatoes. The president has invited the county war agriculture committees to request borough, urban, and parish councils to ascertain what quantity of seed potatoes is required in each village; to collect cash with orders and to distribute seed. It is proposed that arrangements

¹ Issue of Dec. 21, 1916, p. 863.

should be made to deliver potatoes at convenient distributing centers in 1-hundredweight bags. Not more than 5 hundredweight may be supplied to each grower, and the varieties will necessarily be limited.

PRICES FIXED FOR WHEAT, OATS, AND POTATOES.¹

The Board of Trade Journal announces that, after consultation with the agricultural departments of Great Britain and Ireland, the food controller has fixed the following prices to growers for wheat, oats, and potatoes of the 1917 crop:

Wheat.....	60s. [\$14.60] per quarter of 504 pounds.
Oats.....	38s. [\$9.25] per quarter of 336 pounds.
Potatoes in not less than 6-ton lots, f. o. b.....	115s. [\$27.98] per ton for delivery from September 15 to January 31. 120s. [\$29.20] per ton for delivery in February and March. 130s. [\$31.63] per ton for the remainder of the season.

The prices in each case are for produce of the first quality, delivered as required, in sound, marketable condition. The Journal states that further announcements will be made respecting seed corn and seed potatoes for use in 1918, and early potatoes of the 1917 crop.

GOVERNMENT CONTROL OF CORN AND RICE SUPPLIES.²

A cablegram received from the United States consul general in London states that the British Government has taken control of the corn supplies in the United Kingdom. A later cablegram from the same source announces that the commission on wheat supplies is now in control of rice. Prices to be fixed from time to time. All holders of rice to arrive must furnish particulars before February 1.

RECENT ORDERS OF THE FOOD CONTROLLER RELATING TO VARIOUS FOODSTUFFS.

A London correspondence to the Christian Science Monitor³ reports the issuance by the food controller of several new orders, covering bread, wheat, the feeding of game, sweets, cakes and pastry, winter milk, Irish oat exports, and potatoes. The use of wheat except for flour or seed was prohibited by one order. The use of any grains suitable for food or feeding stuffs, or any of their products, for feeding game birds was prohibited by another order. As to sugar and chocolates, an order directed against the manufacture of extravagant sweets enforced a maximum retail price of 3d. (6 cents)

¹ Board of Trade Journal (Great Britain), Jan. 11, 1917, p. 96.

² U. S. Department of Commerce. Bureau of Foreign and Domestic Commerce. Commerce Reports. Washington, Jan. 9, 1917, No. 7, p. 99, and Jan. 31, 1917, p. 401.

³ The Christian Science Monitor, Boston, Feb. 10, 1917, p. 9.

an ounce for chocolates and 2d. (4 cents) an ounce for other sweets, the price in each case to include the cost of the article in which the goods are sold. In the same connection one of the orders prohibited the use of sugar or chocolate for the external covering of cakes. During 1917, under this order, no maker will be allowed to use for sugar confectionery or chocolate more than half what he used in 1915. The use of winter milk in making chocolate was prohibited. Except under license, the export of oats from Ireland was forbidden.

Finally, in the matter of potatoes, the food controller had to consider the situation created by the fixing of the price for army supplies from the existing crops. The tendency of this was likely to be a considerable increase of price to the consumer for the remainder of the crop, and it was therefore announced simultaneously with the other orders, that an order would be issued fixing the price of potatoes at £8 (\$38.93) per ton for the first quality for January and February, rising to a maximum of £9 (\$43.80) for later months. Best seed potatoes could be sold at a maximum price of £12 (\$58.40) per ton.

APPENDIX.

CONTROL OF SUPPLIES OF "ARTICLES OF COMMERCE" BY THE BOARD OF TRADE.¹

Orders in council, dated November 16, December 5, and December 22, 1916, further amend the regulations (called the "Defense of the Realm (Consolidation) Regulations, 1914") under the Defense of the Realm Consolidation Act, 1914, for securing the public safety and the defense of the realm. The orders referred to order the following additions to the regulations:

Power to apply the provisions appended.

2F. (1) Where the Board of Trade are of opinion that it is expedient that special measures should be taken in the interests of the public for maintaining the supply of any article of commerce the maintenance of which is important as being part of the food supplies of the country or as being necessary for the wants of the public or for the wants of any section of the public, the board by order may, with a view to maintaining the supply of the article, apply to that article any of the provisions appended to this regulation.

(2) Any such order may be made either so as to apply generally or so as to apply to any special locality, or so as to apply to any special supplies of any article, or to any special producer, manufacturer, or dealer; and any such order may direct that all contracts, or any class of contracts or any special contract, affected by any provision applied by the order shall remain in force notwithstanding anything in the provision as so applied, but subject to any modifications for which provision may be made by the order.

(3) If any person acts in contravention of, or fails to comply with, any of the provisions appended to this regulation he shall be guilty of a summary offence against these regulations.

¹ Board of Trade Journal (Great Britain) Nov. 23, 1916, pp. 566-570; Dec. 14, 1916, pp. 795, 796; and Dec. 28, 1916, p. 945.

PROVISIONS WHICH MAY BE APPLIED.

Waste or unnecessary destruction.

I. A person shall not waste or unnecessarily destroy any article to which this provision is applied; and if the order applying this provision to that article declares that any specified process, action, or other thing done is waste or unnecessary destruction of the article, that process, action, or other thing done shall be deemed to be waste or unnecessary destruction for the purpose of this provision.

Use of articles.

II. Where the order applying this provision to any article specifies the purposes for which the article is to be used, a person shall not (subject to any conditions contained in the order) use the article except for the purposes so specified; and where the order prescribes any special manner in which the article is to be used, a person shall not (subject to any conditions contained in the order) use the article except in that manner; and where the order prohibits or restricts the use of the article for any special purpose a person shall not (subject to any conditions contained in the order), if the use of the article is restricted, use it except in accordance with the restrictions.

Manner of manufacture, etc.

III. Where the order applying this provision to any article contains any directions or regulations as to the manufacture or production of the article in such a manner as to secure that the public are supplied with the article in the form most suitable in the circumstances, all persons concerned in the manufacture or production of the article shall comply with those directions or regulations.

Mode of sale.

IV. Where the order applying this provision to any article contains any directions or regulations as to the mode of sale or the distribution of the article, or as to the consumption of the article, with a view to securing that the available supply of the article is put to its best use throughout the country or in any locality, all persons concerned in the sale, distribution or consumption of the article shall comply with those directions or regulations.

Market operations.

V. Where the order applying this provision to any article contains any directions or regulations as to the market operations in that article, with a view to preventing an unreasonable inflation of the price of the article as the result of market operations, all persons concerned in market operations shall comply with those directions or regulations.

Prices.

VI. A person shall not (subject to any exceptions contained in the order applying this provision) directly or indirectly sell or offer for sale any article to which this provision is applied at a price exceeding by more than the amount named in the order the corresponding price of the article at a date specified in the order (the corresponding price to be settled in case of difference by the Board of Trade); and where the consideration for any sale or offer consists wholly or partly of any conditions made or offered to be made in connection with the transaction, or is otherwise not of a pecuniary

character, the value of the consideration, or such part thereof as is not of a pecuniary character, shall, for the purposes of this provision, be taken into account in determining the price of the article.

Requisition of supplies.

VII. All persons owning or having power to sell or dispose of any article to which this provision is applied or any stocks thereof shall, if required by the Board of Trade place at the disposal of the board the article, or the whole or any part of the stocks thereof as may be required by the board on such terms as the board may direct, and shall deliver to the board or to any person or persons named by them the article or stocks in such quantities and at such times as the board may require.

Such compensation shall be paid for any article or stock so requisitioned as shall, in default of agreement, be determined by the arbitration of a single arbitrator appointed in manner provided by the order applying this provision; but in determining the amount of the compensation the arbitrator shall have regard to the cost of production of the article and to the allowance of a reasonable profit, without necessarily taking into consideration the market price of the article at the time.

Information as to stocks, etc.

2G (1) If the Board of Trade are of opinion that information is required with respect to any article of commerce with a view to the exercise of any powers of the Board of Trade, in relation to that article, the board may by order apply the provisions of this regulation to that article; and if the provisions of this regulation are so applied to any article, every person owning or having power to sell or dispose of the article, or concerned in the manufacture or production of the article shall, subject to any exceptions or limitations contained in the order, make a return to the board giving such information in such form and within such time as may be specified in the order applying those provisions—

- (a) As to the stocks of the article held by him or consigned to him or under order to him; and
- (b) As to any contracts for the supply to, or by, him of the article or any contracts for, or in connection with, the production or manufacture of the article, or the dealing therein; and
- (c) As to the prices paid by him or received by him for or in respect of the article; and
- (d) As to the cost of production of the article, and the names and addresses of the persons by whom the article has been supplied to him or to whom the article of commerce has been supplied by him; and
- (e) As to any other matters specified in the order applying the provisions of this regulation with respect to which the board may desire information for the purpose of any of their powers and duties.

(2) For the purpose of testing the accuracy of any return made to the board under this regulation, or of obtaining information in case of a failure to make a return, any officer of the board authorized in that behalf by the board may enter any premises belonging to or in the occupation of the person making or who has failed to make the return, or on which he has reason to believe that any article to which the provisions of this regulation are applied are kept stored, manufactured, or produced, and may carry out such inspections and examinations (including the inspection and examination of books) on the premises as the officer may consider necessary for testing the accuracy of the return or for obtaining any such information.

(3) If any person—

- (a) Refuses or without lawful excuse neglects to make a return as required by this regulation to the best of his knowledge and belief, or makes or causes to be made a false return; or
- (b) Obstructs or impedes an officer of the board in the exercise of any of his powers under this regulation; or
- (c) Refuses to answer or gives a false answer to any question, or refuses to produce any books or documents required for obtaining the information to be furnished in pursuance of this regulation;

that person shall be guilty of a summary offense against these regulations.

(4) No individual return or part of a return made under this regulation, and no information as to any person or his business obtained under this regulation, shall without lawful authority be published or disclosed except for the purposes of a prosecution under this regulation; and if any person acts in contravention of this provision he shall be guilty of a summary offense against these regulations.

Inquiries may be held.

2H. (1) If the Board of Trade, in any special case, are of opinion that, before exercising any of their powers under these regulations in relation to any article, it is expedient to hold an inquiry with respect to that article in any locality, the board may appoint such persons as they think fit to hold an inquiry as respects that article and report to the board on such points as the board may direct.

(2) Any persons so appointed shall have power to take evidence on oath and to administer an oath for the purpose.

Arrangements with other Government departments.

2J. (1) The Board of Trade may make arrangements with any other Government department for the exercise by that department on behalf of the Board of Trade of the powers of the board under the regulations numbered 2F, 2G, and 2H with respect to any particular article of commerce, and in such case the department and the officers thereof shall, as respects that article, have and exercise the same powers as are by those regulations conferred on the Board of Trade and the officers of that board, and the local government board (or as respects Scotland the secretary for Scotland, and as respects Ireland the local government board for Ireland) may by arrangement with the Board of Trade confer and impose on any local authorities and their officers any powers and duties in connection with the enforcement of the said regulations numbered 2F and 2G.

(2) Nothing in the regulations numbered 2G and 2H shall prevent the exercise by the Board of Trade of any of their powers in relation to any article under these regulations or otherwise, without having obtained or endeavored to obtain returns under regulation 2G or having held an inquiry under regulation 2H.

(3) Any order of the Board of Trade under the said regulations numbered 2F and 2G may be revoked or varied as occasion requires.

2L. (1) Where the board of agriculture and fisheries are of opinion that, with a view to maintaining the food supply of the country, it is expedient that they should exercise the powers given to them under this regulation as respects any land, the board may enter on the land—

- (a) Without any consent, if the land is for the time being unoccupied, or was unoccupied on the 29th day of November, 1916, or if the land is common land; and

- (b) In any other case, with the consent of the occupier and the person in receipt of the rent of the land—

and cultivate the land, or arrange for its cultivation by any person either under a contract of tenancy or otherwise.

(II) The board may, after entry on any land, do or authorize to be done all things which they consider necessary or desirable for the purpose of the cultivation of the land or for adapting the land to cultivation, including fencing, and may also during their occupation of the land or on the termination thereof remove any such fencing or work of adaptation.

(III) Any person who cultivates land under any such arrangement shall, on the determination, by or on behalf of the board, of the arrangement, if the determination takes effect before the 1st day of January, 1918, receive from the board such compensation as may have been agreed upon under the terms of the arrangement, or, in default of any such agreement, as the board may consider just and reasonable, and shall not be entitled to any other compensation.

(IV) On the determination of the occupation of any land by the board under this regulation, compensation shall be paid by the board to any person injuriously affected by any deterioration of the land caused by the exercise of the powers under this regulation, the amount of that compensation to be determined, in default of agreement, by a single arbitrator under and in accordance with the provisions of the second schedule to the agricultural holdings act, 1908.

(V) The board may, with respect to any land, authorize any local authority to exercise on behalf of the board any of the powers of the board under this regulation.

(VI) In this regulation the expressions "occupied" and "unoccupied" refer to such occupation as involves liability to payment of poor rates, and the expression "common land" includes any land subject to be inclosed under the inclosure acts, 1845 to 1882, and any town or village green and any other land subject to any right of common.

(VII) This regulation (except the last preceding subsection) shall apply to Scotland, with the substitution of the board of agriculture for Scotland for the board of agriculture and fisheries, of arbiter for arbitrator, and of the agricultural holdings (Scotland) act, 1908, for the agricultural holdings act, 1908; and as regards Scotland "unoccupied land" shall mean land in respect of which no person was entered as tenant or occupier in the valuation roll for the year ending on the 15th day of May, 1917.

RECENT REPORTS RELATING TO WORKMEN'S COMPENSATION AND ACCIDENT INSURANCE.

CALIFORNIA.¹

With the publication of the report of the Industrial Accident Commission of California for the year ending June 30, 1916, the compensation experience of that State is made available for a period of almost five years, the first compensation act having become effective September 1, 1911. For the earlier half of this period, however, the experience was very limited, the act of 1911 having been entirely elective and having been accepted by only a portion of the employers in the State. It was suspended January 1, 1914, by the compulsory act now in force.

This act makes compensation compulsory for all classes of employment except farm labor, domestic service, and casual labor. Employ-

¹ California. Report of the industrial accident commission, July 1, 1915, to June 30, 1916. Sacramento (1916). 152 pp. Illustrated.

ers of these excepted classes of labor may voluntarily accept the act, and the number doing so has rapidly increased. On June 30, 1915, acceptances of this character had been filed by 6,858 employers. By June 30, 1916, this number had increased to 17,891, of whom 10,397 were engaged in agricultural pursuits and constituted, the report estimates, about 14 per cent of all the labor-employing farmers of the State. From this, the commission concludes "that there is ground for the belief that the time is not far distant when farming may be eliminated from the exempting clause of the act" (p. 6). That the exemption of agriculture is a serious limitation upon the scope of compensation is indicated not only by the importance of that industry in the State, but also by its hazardous character. Thus, of the 533 fatal accidents reported to the commission in 1915, 55, or more than 10 per cent, were in agriculture (p. 50).

In addition to the three exempted classes noted, the employees of interstate railroads are virtually exempted from the compensation act because of uncertainty of jurisdiction between the State and Federal Governments. Making allowance for these several items, the report estimates that approximately 15 per cent of the industrial injuries occurring in the State, representing about 125,000 employees, are outside the protection of the compensation act.

The California compensation act does not make insurance compulsory. The State maintains a compensation insurance fund, which carries on a compensation insurance business in competition with private carriers. The employer may insure therein, or in a stock or mutual company, but he is not required to insure at all. Data in the present report indicate that in not over two-thirds of the injury cases occurring are the employers insured.

Moreover, the failure of an insurance carrier during the course of the year emphasized the fact that even insurance by the employer is not a complete protection for the employee, unless the carriers are safely managed. "This failure," says the report, "resulted in widespread loss throughout the State, not only loss to employers born of the necessity of paying premiums to other carriers to protect them for unexpired terms of policies in force, but the very serious loss suffered by injured workmen and dependents of the killed for whose benefit the compensation system was designed and whose claims for indemnity were left unpaid." The report gives no details as to the actual losses suffered, but in a list of brief personal histories of sufferers from permanent disabilities, there appears the following sketch, listed simply as "History No. 31." It represents a particularly pathetic case of industrial accident, whose victim was granted a liberal award only to have it snatched from him through the failure of the insurance company.

History No. 31:

The subject of this sketch, 62 years old, has no family. His injury consists in the total loss of both eyes and fearful disfigurement of his face. Otherwise he is in perfect health. His disability rating was fixed at 100 per cent, with a life pension of 40 per cent. His compensation was \$10.32 per week. Since the failure of the insurance company he has been an object of charity.

The State compensation insurance fund during the two and one-half years of its existence—from January 1, 1914, to June 30, 1916—showed a constant and rapid increase in business, and is now the largest single carrier of compensation insurance in the State. In 1914 the earned premiums amounted to \$496,142, in 1915 to \$604,983, and during the first six months of 1916 the increase continued at a rate which indicated that the earned premiums for the full year would be well over \$700,000. The total net income of the fund for the whole period of two and one-half years amounted to \$1,635,043 (consisting of \$1,476,864 earned premiums, \$58,178 from interest and \$100,000 from State appropriation). As the total disbursements were \$1,258,599 (\$396,803 losses paid, \$647,048 loss reserve, \$213,736 expenses of management, and \$1,010 minor expenses), there was left a surplus of \$376,445. Out of this, dividends of \$134,381, averaging about 15 per cent for each of the years 1914 and 1915, were paid to policyholders, leaving, on June 30, 1916, the sum of \$242,063 as undistributed surplus available as catastrophe hazard. In addition, the commission contends that the State law requiring loss reserves of 75 per cent of earned premiums (less losses paid) for a period of 5 years is more rigid than necessary; that on the basis of indicated liabilities, the fund need carry only \$341,550 as reserve instead of \$647,048. If this estimate is correct, the difference between these two items—\$305,497—will thus be available for distribution among policyholders after the statutory five-year period.

The loss ratio of the fund for the two and one-half year period was 49.99—i. e., 49.99 cents of incurred losses out of each dollar of earned premiums. The expense ratio for the same period was 14.47. The fund bears all its expenses. The only aid of the State was an appropriation of \$100,000 made at the time the fund was established.

Accident prevention, under the California law, is emphasized as of coordinate importance with accident compensation. The same commission that administers compensation is given very broad authority to carry on safety work, and liberal appropriation for this purpose has been made by the legislature. A safety department was organized in 1914, under the charge of a superintendent. During 1915 the number of inspectors was increased to nine. These are practically all men of technical training, appointed through competitive examination. In addition, there is a special mine safety division,

under the direction of a mining engineer, detailed by the United States Bureau of Mines, with three deputy mine inspectors.

Under the direction of its safety department, the commission has been engaged in the preparation of safety codes for various industries. These are prepared by committees representing employers, employees, and other interested parties. During 1915, a number of important codes of this character were adopted, including a very comprehensive mining code. This work is still in progress, safety orders for laundries, engines and woodworking, becoming effective in 1916, and public hearings being arranged for on a general boiler code.

Since January 1, 1914, the law has required the reporting of all industrial injuries to the commission, whether or not such injuries are subject to compensation. During the two and one-half years since that date, the total number of reported injuries has shown a marked tendency to increase, but with considerable fluctuation in the case of fatal accidents. Thus, for the year 1914, the total number of reported injuries was 62,211, of which 678 were fatal. In 1915 the total rose to 67,538 while the fatal cases decreased to 533. With 1916, however, there occurred a marked increase in both items, the data for the first six months indicating that the figures for the full year would show approximately 80,000 injuries with some 650 deaths.

The report attributes these fluctuations in reported injuries partly to better understanding of the law on the part of employers and employees, but, in greater part, to changes in the amount of employment. The year 1914, it believes, was a better business year in the State, particularly in the hazardous building trades, than was the following year 1915, while 1916 showed a marked revival in manufacturing activity. The report states that from the available data it is impossible to tell whether the efforts at accident prevention have met with any success and emphasizes the fact that this will always remain doubtful until some way is found for determining accident exposure—i. e., the number of workers employed and the period of their employment for the various industries and for the State as a whole. At present such information is entirely lacking and the report states that no State agency has sufficient power to collect such data.

The total payments made by employers and insurance carriers under the requirements of the compensation act are reported as being \$2,002,706 in 1915, with a total of 67,538 reported injuries, as against \$1,861,809 in 1914, with 62,211 reported injuries. Of these total payments medical service constituted 42.5 per cent in 1915 as against 39.2 per cent in 1914.

ILLINOIS.

Data relative to industrial accidents in Illinois in the years 1914 and 1915 are contained in two pamphlets¹ both of which have been recently issued by the State Bureau of Labor Statistics and which will be considered together in order to facilitate comparison. These reports are entirely statistical and do not include any data as to compensation or other benefits paid on account of industrial accidents. The law requires all employers of labor to report within 30 days every serious injury entailing a loss of 30 or more days, and the death of every employee caused by accident while in the performance of any duty or service for such employer. It is important to note, however, that all employers operating under the workmen's compensation law are required to report accidents to the industrial board which administers that law and such employers are exempt from reporting accidents to any other State board or commission. Therefore the accidents notified to the bureau of labor statistics and tabulated in the reports here reviewed do not necessarily represent all industrial accidents which occurred in the years 1914 and 1915, but are instead, probably, a small proportion of such accidents.

During the year 1914 there were 197 fatal and 1,478 nonfatal accidents, the fatal accidents being reported by 78 different employers and the nonfatal by 211 employers. In 1915 there were reported 132 fatal and 1,298 nonfatal accidents. The following table summarizes these accidents by industry, showing a decrease in 1915 over 1914, which may be due to the fact that a large number of employers were operating under the workmen's compensation law and therefore reported their accidents elsewhere.

NUMBER AND PER CENT OF FATAL AND OF NONFATAL INDUSTRIAL ACCIDENTS IN ILLINOIS IN 1914 AND IN 1915 AS REPORTED TO THE STATE BUREAU OF LABOR STATISTICS IN EACH SPECIFIED INDUSTRY.

Industry.	1914				1915			
	Fatal.		Nonfatal.		Fatal.		Nonfatal.	
	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
Coal mining.....	60	11.5	460	88.5	49	10.2	432	89.8
Transportation.....	116	19.0	494	81.0	70	13.2	461	86.8
Stone quarrying.....					2	100.0		
Manufacturing.....	14	2.7	507	97.3	11	2.8	385	97.2
Miscellaneous.....	7	29.2	17	70.8			20	100.0
Total.....	197	11.8	1,478	88.2	132	9.2	1,298	90.8

¹ Illinois. Bureau of Labor Statistics. Eighth report. Industrial accidents in Illinois for the year ending Dec. 31, 1914, 79 pp. Ninth report. Industrial accidents in Illinois for the year ending Dec. 31, 1915, 64 pp. Springfield, 1916.

Taking the two years together, of the 323¹ fatal cases, 62.2 per cent were married men, and the number of dependents left by these men was 592. The average age of those killed was 36 years. In 1915 falls of coal, slate, or rock were responsible for the greatest number of killed (15.2 per cent). Of the 1,478 nonfatal accidents in 1914 the largest number, 122, or 8.3 per cent, were classed as "bodies injured," and of the 1,298 in 1915 the largest number, 112, or 8.6 per cent, were classed as "fingers injured." In 1914, 64.8 per cent of those injured were married; the average was 35 years; 46.4 per cent were Americans and 10.2 per cent were Italians. In 1915, 16 per cent of those injured were miners and 15.9 per cent were laborers; 14.6 per cent were injured by falls of coal, slate, or rock; the average age was 35 years.

MASSACHUSETTS.²

The Third Annual Report of the Massachusetts Industrial Accident Board covers in detail the activities of the board for the year ending June 30, 1915. It also presents a general review of the operations of the compensation act during the three years it had then been in effect. Perhaps the most important question incident to such a review is the extent to which the act has been accepted by employers. The act itself is elective and the benefits it offers the workers of the State are dependent upon the willingness of employers to accept its provisions. Election on the part of employers of farm labor and domestic service is entirely voluntary. But all other employers who do not elect are denied the three most important common law defenses in case of damage suits, and this pressure was counted upon to make them accept the act.

Unfortunately this very important question of the act's present scope is one which the report is unable to answer with any precision. Under the Massachusetts system an employer desiring to accept the act does so by taking out insurance in an authorized insurance carrier. Of those not taking out insurance there is absolutely no record. But the accident board does receive reports of accidents—the law requiring all employers to report all accidents—and it is informed as to which ones of these are under insurance. These data are presented in the report as indicating roughly the proportion of employees in the State covered by compensation. The figures are as follows:

¹ In the 1914 report the table of conjugal relations gives only 191 as the number killed. For the other six probably no report was received on this point, although the reason for the omission is not given.

² Massachusetts. Third annual report of the industrial accident board. Boston, 1916.

FATAL AND NONFATAL ACCIDENTS REPORTED AND NUMBER AND PER CENT OF INSURED CASES.

	First year.	Second year.	Third year.	Total.
Total reported accidents.				
Nonfatal.....	89,694	96,382	94,597	280,673
Fatal.....	474	509	370	1,353
Total.....	90,168	96,891	94,967	282,026
Number of insured cases.				
Nonfatal.....	72,862	83,797	86,359	243,018
Fatal.....	290	371	289	950
Total.....	73,152	84,168	86,648	243,968
Per cent insured cases of total reported accidents.				
Nonfatal.....	81.2	86.9	91.3	86.6
Fatal.....	61.2	72.9	78.1	70.2
Total.....				86.5

Thus, in the first year 81.2 per cent of the nonfatal cases and 61.2 per cent of the fatal cases were insured. In the second year these percentages jumped to 86.9 for nonfatal and 72.9 for fatal, and in the third year to 91.3 and 78.1 respectively. For the three years combined, 86.5 per cent of all the injuries reported were insured. The report cites these percentage figures as indicating roughly the proportion of the total employees of the State covered by insurance, and also as indicating a rapid increase during the three-year period in the proportion of workers so covered.

It seems doubtful, however, whether either of these inferences can be safely drawn from the percentage figures quoted. Certainly not from the percentages for nonfatal injuries. These are undoubtedly much too high, due to the fact, as will be discussed in a later paragraph, that injuries under insurance are much more fully reported than those not under insurance.

In the case of fatal injuries, the objection of incomplete reporting is of much less force. Injuries serious enough to cause death are probably reported with very considerable completeness even when the employer is uninsured. This being so, the percentages of fatal insured cases to total fatalities reported would seem to be acceptable as measuring, roughly at least, the proportion of workers in the State covered by compensation—the percentage figures themselves indicating a rapid increase in the proportion so covered, from 61.2 per cent in the first year to 72.9 per cent in the second and 78.1 per cent in the third. But the rapid spread of compensation indicated by these figures is not substantiated by the compensation activities of

the insurance companies as reported to the accident board and as shown in the following table.¹

DISPOSITION OF ACCIDENT CASES BY INSURANCE COMPANIES.

	First year.	Second year.	Third year.
Total cases handled by insurance companies.....	73,151	88,278	90,035
Cases in which no benefits were paid.....	31,768	28,118	24,597
Cases receiving benefits:			
Medical benefits only.....	26,303	42,798	48,796
Money awards—nonfatal.....	14,791	17,037	16,390
Money awards—fatal.....	289	325	252
Total.....	41,383	60,160	65,438

Line 3 of this table shows a rapid increase in the total number of persons receiving benefits under the compensation act—from 41,383 in the first year, to 60,160 in the second, to 65,438 in the third. But this increase was limited almost entirely to those receiving “medical benefits only”—i. e. disabilities less than the two weeks prescribed as a waiting period by the Massachusetts law—and was probably due to a more complete filing of claims in minor injury cases, combined perhaps with a greater liberality toward such claims. If it had been due to an actual increase in the number of employees covered by the act, it is reasonable to suppose that there could have occurred a corresponding increase in the number receiving money awards for disabilities of over two weeks’ duration. But this latter number, as shown in the fifth line of the table, increased but slightly in the second year—14,791 to 17,037—and actually decreased in the third year to 16,390.

From this brief analysis, it may be concluded that by 1915, the compensation act covered less than 78 per cent of the employees of the State, with the insurance companies, reports indicating that this proportion is probably not increasing. Of the 22 per cent or more of the workers not covered by the act, a very considerable number are no doubt in agriculture and domestic service, the two employments in which the employer loses no defenses by not accepting the act. Employees of steam railroads are also totally excluded, none of these companies having accepted the act. In addition, however, there is evidently a very considerable number of excluded employees in manufacturing and trade.²

Any more accurate estimate of the proportion of employees excluded from compensation is rendered impossible because of the incomplete reporting of minor injuries, particularly by employers who are not insured. That such injuries are not at all fully reported is evident from the tables in the appendix of the report (Tables I and II),

¹ These figures are from the reports of the board for 1913 (p. 326) 1914 (p. 472), and 1915 (p. clx).

² The industrial accident board, in the report to the legislature of 1917 strongly urges that the compensation act be made compulsory. See MONTHLY REVIEW, February, 1917, p. 261.

showing accident reports by industries. Thus, to cite an example, the reports from the building trades show, under insured cases, 48 fatal and 8,409 nonfatal injuries, a ratio of 1 fatal to 175 nonfatal, whereas, for the noninsured cases, there were reported 6 fatal injuries as against only 35 nonfatal, a ratio of 1 to 6. As there is no apparent reason why, in the same industry, the ratio of nonfatal to fatal accidents should not be substantially the same for noninsured as for insured injuries, and as fatal accidents are probably reported with fair accuracy in both groups, this discrepancy would indicate a gross failure of the noninsured employees to report their minor injuries. Again, for agriculture there were reported 1 fatal and 114 nonfatal injuries under insurance, while for noninsured cases there were 2 fatal as against only 5 nonfatal.

Furthermore, it appears that very defective reporting of minor injuries exists even in the case of injuries under insurance. Illustrations of this appear in Table XIII of the report, showing duration of disability in nonfatal cases by industries. Several industries are there credited with a predominance of long term to short term disabilities which is clearly due to incomplete reporting of minor disabilities. The ship and boat building industry, all of which is under insurance, is a striking example. Here the number of disabilities listed as under one day is only 57, and those of 1 to 3 days only 35, as against 70 in the 8 to 10 day group and 67 in the 11 to 14 day group. This distribution is contrary to all experience. If there were as many as 67 disabilities lasting from 11 to 14 days there must have been several hundred times the quoted number in the shorter disability periods.

The subject of deficient accident reporting has been here somewhat enlarged upon simply because the data in the report under review are in a form which makes critical analysis possible. Probably all of the accident tabulations under the various State compensation acts suffer from this weakness, and it is a weakness of far-reaching effect. To the extent that the basic accident material is incorrect, deductions therefrom are not only unsatisfactory, but may be very misleading.

A part of this weakness can be removed by excluding from consideration the very minor injuries, the reporting of which is everywhere incomplete; thus, the recent recommendation of the International Association of Industrial Accident Boards and Commissions that there be used for "tabulatable" purposes only such injuries as cause disability of more than the day, shift or turn on which the injury occurred. The Massachusetts board was one of the first of the State boards to accept this definition and a beginning in its practical use is made in the present report. The importance of the very minor

disabilities as affecting accident tabulations is shown in the following table, condensed from a table given in the report:

DURATION OF DISABILITY OF ACCIDENTS REPORTED TO THE BOARD.

	First year.	Second year.	Third year.
Total accidents reported to board.....	90,168	96,891	94,967
Under 1 day.....	36,901	41,269	42,478
1 day to 2 weeks.....	31,685	34,054	31,177
Over 2 weeks.....	21,108	21,059	20,942
Fatal.....	474	509	370

The total number of accidents reported to the board is here shown to have increased from 90,168 in the first year to 94,967 in the third year. But the increase was due entirely to the growth in the number of short-time disabilities reported. The disabilities of one day to two weeks showed an actual decrease between the first and third years, as did also the disabilities of over two weeks' duration.

Occupational diseases are compensable in Massachusetts as "personal injuries" within the meaning of the law. The accident board accepted this interpretation from the beginning and has been upheld therein by the highest State court. Massachusetts was the first State to adopt this liberal attitude, which even now has been adopted by not more than two or three other States.

The number of cases of occupational diseases reported to the board is noted by the present report as steadily increasing. The number reported each year with the estimated wage loss is as follows:

NUMBER OF FATAL AND NONFATAL CASES RESULTING FROM OCCUPATIONAL DISEASE, AND ESTIMATED WAGE LOSS.

Year.	Number of cases.		Estimated wage loss in nonfatal cases.
	Fatal.	Nonfatal.	
First.....	3	104	\$3,204
Second.....	10	354	15,582
Third.....	3	699	50,318
Total.....	16	1,157	69,204

One of the fatal cases during the third year, ending June 30, 1915, was classified as due to gases, vapors, and fumes; one to lead poisoning; one to extreme cold. The distribution by causes of all of the 702 cases for that year is as follows:

PERSONAL INJURIES, BY DISEASES OF OCCUPATION, JULY 1, 1914, TO JUNE 30, 1915.

Classification.	Cases.		Nonfatal cases.	
	Fatal.	Nonfatal.	Days lost.	Wages lost.
HARMFUL SUBSTANCES.				
Arsenic.....		2	88	\$211
Dusts.....		6	515	1,254
Gases, vapors, and fumes.....	1	24	391	1,202
Hides (anthrax).....		8	439	773
Lead.....	1	46	4,331	11,340
Miscellaneous.....		4	430	591
HARMFUL CONDITIONS.				
Extreme cold.....	1	40	1,882	3,591
Extreme heat.....		48	455	1,116
Eye strain.....		10	59	137
Strain, fatigue, faulty positions, "occupational neuroses," blows, vibration, pressure, etc., causing injuries to nerves, muscles, and bones.....		63	6,433	15,534
Miscellaneous.....		143	145	403
IRRITANT FLUIDS AND SUBSTANCES.				
Brass.....		8	41	55
Cement.....		9	129	264
Chrome.....		16	350	576
Cyanide and plating solutions.....		7	121	242
Dyes.....		18	373	590
Hides.....		10	57	86
Lime.....		7	98	205
Oil.....		18	116	218
Paint.....		2	34	64
Poisonous vines, trees, shrubs.....		39	1,106	2,042
Raw wool.....		10	78	91
Washing and cleansing fluids.....		13	216	235
Local irritation from constant vibration, blows, pressure, etc.....		135	2,256	3,768
Miscellaneous.....		154	3,008	5,730
Total.....	3	699	23,251	50,318

NEW YORK.¹

The report of the New York Industrial Commission for 1915 reviews the operation of the workman's compensation act of that State for the first 18 months of its existence; i. e., from July 1, 1914, to December 31, 1915. This law, as originally enacted, provided that it should be administered by a special compensation commission. But within a year the functions of this special commission were merged with those of the reorganized State Department of Labor under the control of the newly created industrial commission.

By this consolidation all of the labor laws of the State were brought under a single administrative jurisdiction. The importance of this, from the standpoint of the compensation act, lies chiefly in the fact that it permits of complete correlation of accident compensation and the even more important work of accident prevention.

The New York Industrial Commission is particularly well equipped to carry on such preventive work. The safety laws themselves are comprehensive and the commission is vested with very extensive authority to erect and enforce stringent safety standards. The commission, through its inspection bureaus, has been active along

¹ Annual Report of the New York (State) Industrial Commission for the 12 months ended Sept. 30, 1915, pp. 119-166. Albany, 1916.

this line. But the extent of its success is undetermined. To measure the effect of accident preventive work it is necessary to know the course of accident rates from year to year, and to obtain rates it is necessary to know not only the number of accidents but also the number of employees exposed. No information of this character is as yet available for New York.

A second important amendment to the compensation act during the first year of its operation concerned the method of making claims and paying awards. Under the original law all claims for compensation had to be made directly to the commission, which itself collected all money for awards from the insurance carriers and made the payments to the beneficiaries. The amended law permits the employer and employee, subject to later approval by the commission, to make agreements between themselves as to the amount of the awards and to arrange for immediate payment. Only in the event of failure of the two parties to reach an agreement need the claim be made directly to the commission.

This change was urged as simplifying and expediting the settlement of claims, and also as relieving the commission of an enormous amount of work, which would be transferred to the employer and insurance carrier. But the change was also bitterly opposed on the ground that the workers' interests would not be so well protected. As regards this possible effect of the amendment the commission says:

While the law has not been in operation a sufficient time to warrant the drawing of final conclusions based upon ascertained facts, the commission has not found sufficient evidence of abuses in connection either with private agreements or direct payments to warrant the belief that employees have not or will not receive the full amount of compensation to which they are entitled.

The only statistical data bearing on this point are such as are contained in the tabular statements of the claims division. These show that during the nine months under the old law an average of 3,296 claims per month were made to the commission. Under the amended law this monthly average of claims and agreements combined decreased to 2,968. As a suggested explanation of this the report says:

It will require statistical analysis to demonstrate what class of injuries do not result in claims being filed. It is supposable that they are minor claims in which employees receive advance payment and fail to file claims.

The report gives considerable space to an account of the operation of the State insurance fund and a defense of its methods. This fund was established at the time of the adoption of the present compensation act (July, 1914), to be conducted by the State as a competitor with stock and mutual companies in the writing of compensation insurance. At the end of the first six months, December 31, 1914,

it had 7,119 policyholders and the volume of premiums in force was \$692,583. During the year 1915 the fund is credited with a steady growth. The number of policyholders increased to 8,507, and, while the volume of premiums written decreased slightly—to \$674,973—this is declared to be not a real decrease, but only an apparent one, due to the general reduction in premium rates. It is stated, in fact, that the fund has held practically all the business it ever obtained, the total amount of semiannual premiums represented by policyholders transferring their business to other insurance carriers being only \$12,000.

The net premium income of the fund during the year was \$1,293,613. This, added to interest income of \$48,925, makes the total income \$1,342,538.48. As the total disbursement for losses paid and increase in reserves was \$942,224, there was left a surplus of \$400,314, which, added to the surplus of \$178,897 carried over from the previous year, makes a total surplus of \$579,211 to the credit of policyholders. Out of this sum dividends of \$347,541 were paid to policyholders, leaving \$231,670 as undistributed surplus on hand at the end of the year 1915. This, added to the sum of \$145,729, set aside as a catastrophe reserve, makes a total of \$377,399 available for catastrophe losses. This would be sufficient to cover a disaster involving approximately 100 deaths.

The report contends that inasmuch as the reserves for unpaid losses have been calculated most liberally, the above showing of financial condition indicates that the State insurance fund is on a perfectly safe basis, notwithstanding that the rates charged by it are approximately 20 per cent lower than those of the private casualty companies.

Charging these lower rates, the loss ratio of the fund for the full 18 months' period was 64.8 per cent, i. e., 64.8 cents out of each dollar of earned premiums received. The report computes that this would have been only 56 per cent if the fund had charged the same rates as the casualty companies.

The management expenses of the fund were paid by the State treasury until January 1, 1917. But if the fund had paid its own expenses, as it is now doing, it is computed that this would have amounted to 14.3 per cent of earned premiums during the first 18 months, and that this expense ratio would have been reduced to 13 if the rates of the casualty companies had been charged. The management expenses for the full 18 months are reported as having been \$275,679. This sum, it may be noted, is considerably less than the sum reported as having been disbursed for dividends—\$347,541.

The information regarding accident experience and compensation awards, as presented in the report, is rather limited. For the State as a whole, a statement of awards made is given for only the first nine

months of the act (July 1, 1914, to Mar. 31, 1915), i. e., for the period, during which, as mentioned above, all claims were made directly to and settled by the commission. During that period, 29,680 awards were made at an aggregate cost (excluding medical service) of \$4,880,433. On this basis the report computes that the total cost of awards for a full year would be about \$6,507,245. The medical service is estimated at an additional \$2,463,750, making a grand total of \$8,970,995 as the full cost of compensation for a year's time.¹

The analysis in the following table of the 29,680 awards made during the nine-month period shows the distribution and average costs of the different kind of awards. The table is condensed from a longer one in the report (p. 130). Medical service is not included, as not accurately known by the commission. Nor are any data available regarding the number of cases entitled to medical aid, but, because of the two weeks' waiting period, not entitled to money awards.

NUMBER AND VALUE OF ALL AWARDS MADE BY THE INDUSTRIAL COMMISSION
JULY 1, 1914, TO MAR. 31, 1915.

Kind of benefit.	Cases.	Amount or present value of awards.	Average value of award.
Death—			
With dependents.....	476	\$1,844,356	\$3,874.70
No dependents.....	96	9,339	97.28
Pending.....	27	87,499	.....
Permanent total disability.....	14	104,651	7,475.12
Permanent partial disability.....	2,058	1,070,933	520.38
Temporary total disability (over two weeks).....	26,161	1,109,570	42.41
Temporary partial disability.....	36	718	19.96
Indeterminate.....	579	402,039	.....
Total awards made.....	29,447	4,629,108	.....
Under investigation, etc.....	233	1251,325	.....
Grand total.....	29,680	4,880,433	.....

¹ Estimated.

The average value of the death awards with dependents, as shown in the last column of the table, is \$3,874.70. The average award for permanent total disability is much higher than for death, \$7,475. Permanent partial disabilities show an average of \$520.38, and temporary total disabilities an average of \$42.41.

It is of interest to compare these averages for all awards made with the corresponding averages for the awards paid under State fund policies. The experience of the State fund in this respect is shown in the following table, copied from the report (p. 164). It shows the distribution and costs of the 10,307 accident cases handled by the

¹ This estimate was made in 1915. In connection therewith, it is of interest to note that, a year later, Commissioner Lynch of the industrial commission, estimated that, for the year 1916, with much greater business activity than in 1915, the total number of compensated accidents for the State was approximately 60,000, and the total cost, not including medical service, about \$11,500,000. This is almost double the annual cost as estimated for 1915 in the report.—See Bulletin New York State Industrial Commission, January, 1917, p. 61.

State fund for the year ending June 30, 1915. Some of the policies written by the fund cover medical service, and thus such service appears as an item in the table.

NUMBER AND VALUE OF AWARDS PAID UNDER STATE FUND POLICY JULY 1, 1914,
TO JUNE 30, 1915.

[Experience brought down to Dec. 31, 1915.]

Acci- dents re- ported.	Kind of benefit.	Incurred loss.	Average per acci- dent.
72	Ia. Death: Dependents (including \$6,970 funeral).....	\$287,748.88	\$3,997.00
11	b. Death: No dependents, funeral only.....	1,004.50	91.00
	c. Suspended mortality.....	20,276.19	
5	II. Permanent total disability.....	30,856.34	6,171.00
224	III. Permanent partial disability: Dismemberment.....	118,719.30	530.00
2	IV. Permanent partial disability: Not dismemberment.....	7,912.00	3,956.00
28	Va. Temporary total disability: Open cases as of Dec. 31, 1915...	81,029.00	2,894.00
2,127	b. Temporary total disability: Closed cases as of Dec. 31, 1915...	102,922.22	48.00
	VI. Temporary partial disability.....		
(1,472)	VIIa. Medical aid: Compensatable cases.....	44,874.77	30.00
4,189	b. Medical aid: Noncompensatable cases.....	28,301.88	7.00
3,649	VIII. No loss.....		
10,307		723,645.08	

The average awards under State fund policies are seen to be similar to, although as a rule slightly higher than, the averages of the awards as a whole, as shown in the preceding table. Thus, the average death benefit, with dependents, was \$3,997 for State fund cases, as against \$3,874 for all death cases.

On the other hand, it is of interest to note that the average value of all the awards under the State fund, with medical service excluded, is very much higher than the corresponding average for the whole group of 29,680 cases—the former being \$263.47 (p. 160), and the latter \$157.20 (p. 134). This marked difference is due chiefly to the very much larger percentage of deaths with dependents among the State fund cases than among the whole group of 29,680 cases.

UTAH.

The Employers' Liability Commission of Utah, consisting of seven members, was appointed by the governor on March 1, 1916, under legislative authorization, "to inquire into the question of employers' liability and other matters and provide for an appropriation therefor." The report of this commission as submitted to the legislature of 1917 is a pamphlet of 62 pages, bearing date of November 1, 1916, embodying its findings and recommendations and including a tentative bill to be known as the Utah workmen's compensation act.¹ No provision was made for compensation of the commission other than the reimbursement of expenses in an amount not exceeding \$500. This operated to restrict the investigation practically to correspond-

¹ Utah. Report of the Employers' Liability and Workmen's Compensation Commission to the Twelfth Session of the Legislature of Utah, together with draft of the bill submitted. [Salt Lake City, 1916.] 62 pp.

ence and the examination of such material as could be secured by request. Some individual observations were made by one or two members while in compensation States on other errands, but the commission concludes that—

It is to be regretted, however, that the commission could not have visited other States as a body, to observe, at first hand, the operations of the various laws.

The commission felt itself restricted to an elective form of law by reason of the limitations of the State constitution, and, after having studied "in a tentative way all the laws, and quite thoroughly some laws, of the different States, and after a pretty thorough investigation," it settled upon the Indiana statute of 1915 as a practical basis for its law. Additions and amendments were made, using features of the laws of Colorado, Nevada, Montana, and Kentucky. While the elective system was adopted, acceptance of the act is presumed in the absence of positive rejection, and employers under the act are required to maintain insurance or furnish satisfactory proof of financial ability to make direct payments. Mutual insurance associations are authorized, and approved benefit systems may be maintained. A compensation basis of 50 per cent of the weekly wages for limited periods was fixed upon as in some sense a compromise, particularly in the matter of permanent total disability. The same attitude of mind was expressed as to a fixed schedule for partial disabilities. As to these matters it was felt that—

It was impossible to attain more than general and approximate results for the initial law, and the commission suggests that this and other apparently desirable phases be left to be adjusted by the industrial board and for possible future amendments.

We believe the time will come when the board will have power to say to one employee who has lost a foot that he will receive so much, and to another employee who has had the same trouble, that he will receive so much; it may be an increase or a decrease. The former may be a man with a wife and one child; the latter may have a wife and 10 children. The former may not be so disabled after his recovery that he can not enter his former occupation. The latter may be so disabled that he can not perform his former duties. That these two classes of cases should be treated alike seems anything but just.

The act as drawn does not apply to casual employers, to employers of less than four employees "in the same industrial employment for the sake of pecuniary gain," or to private household or domestic servants, unless by voluntary election. Agriculture is not exempted, mining employers taking the ground that there was no justification in putting an employment that was of known hazard on a different footing from other employments which were to be covered by the act. "The commission confessed that they can find no good reason for exempting agricultural pursuits and it therefore had included them in those to be covered." The fact remains that the exemption of employers of less than four persons will operate to exclude a large proportion of farm labor from the protection of the act.

The tentative bill is divided into five parts. Part I deals with rights and remedies; Part II includes the compensation schedule; Part III has to do with the administration of the proposed law; Part IV deals with the question of insurance and provides the manner in which the compensation of workingmen shall be secured; and Part V has reference to definitions and miscellaneous provisions. The following is a summary of its more important provisions not already touched upon:

1. The three grounds of common-law defense, assumption of risk, fellow servant, and contributory negligence, are taken from an employer if he elects not to operate under the law.

2. The waiting period is 14 days, compensation beginning on the fifteenth day.

3. The employer is required to provide free medical and hospital services, not to exceed \$100, during the first 30 days after an injury, and thereafter if he chooses, which service shall be accepted by the employee. If he shall refuse to accept such service he shall be barred from compensation during such refusal. This provision is to apply in cases where there is no medical or hospital contract or agreement under which the employee is assessed by the employer for the maintenance of a hospital.

4. For total disability compensation shall be on the basis of 50 per cent of the average weekly wages for a period not exceeding 333½ weeks, with a maximum weekly payment of \$12, the total payment not to exceed \$4,000; for partial disability the payment shall be on the basis of 50 per cent of impairment of earning capacity for a period not exceeding 250 weeks, with a maximum weekly payment of \$12, the total payment not to exceed \$3,000; for death a maximum payment of \$3,000 shall be made, or, if no dependents, burial expenses not to exceed \$100. For certain enumerated injuries compensation equal to 50 per cent of the average weekly wages shall be paid for a specified number of weeks, depending on the injury. The average weekly wage shall be considered not to be more than \$24 nor less than \$10, and the total compensation paid shall in no case exceed \$4,000.

5. No provision is made for occupational diseases.

6. The administrative features of the bill provide, among other things, for an industrial board consisting of three members appointed by the governor, each to receive a salary of \$4,000; and that every employer shall keep a record of all injuries and report same to the board within seven days after occurrence.

7. Employers may carry their own insurance upon furnishing sufficient evidence of their ability to do so. The formation of mutual insurance associations by groups of employers is authorized under certain conditions. The creation of a State fund is not deemed wise.

8. Nonresident alien beneficiaries are restricted to half benefits with a maximum of \$1,000, only widows, parents, and children under 17 being considered.

9. An appropriation of \$25,000 a year is recommended, and the act shall take effect on July 1, 1917.

The pamphlet includes a minority report by one of the members of the commission, who, while hoping to see a compensation law enacted at the present legislative session, expressed his unwillingness to sign the report of the majority on the ground that the provisions of the bill as drafted by them were lacking in fairness and liberality. Exception was taken to the exemption from the act of small employers, also to a provision allowing a hospital fee to be collected from the employees, to the length of the waiting period, to the limitations on the amount of compensation, both percentual and absolute, to the reduction of compensation for alien beneficiaries, to the failure to provide for a State fund, to the exclusion of occupational diseases, and to the omission from the bill of any provision for the prevention of accidents.

VERMONT.

The second biennial report of the Vermont factory inspector for the 21-month period ending August 1, 1916, and the report of the industrial accident board for the year ending June 30, 1916, are contained in a pamphlet of 30 pages.¹ During the year covered by the first report, 424 inspections were made and 412 orders were entered demanding changes to comply with the law. In addition, 127 second notifications were placed to ascertain whether the orders had been complied with. During these inspections attention was given to the work of safeguarding dangerous machinery, but the fact is noted that lack of cooperation by employers has resulted in many safeguards being removed and not used at all. Accident reporting, it is stated, has been very carefully attended to and sanitary conditions throughout the industries of the State have been improved. The number of accidents reported from March 1, 1913, to November 1, 1914, was 1,059,² while from November 1, 1914, to August 1, 1916, the total of those reported to the factory inspector and those taken from the files of the industrial accident board was 4,810,³ of which 33 were fatal, 275 were serious, and 4,502 were minor injuries. The following table shows by nature of injury the accidents occurring from November 1, 1914, to August 1, 1916, indicating the per cent in each classification.

¹ Vermont. Second biennial report of the factory inspector for the period ending Aug. 1, 1916. Report of the industrial accident board for the year ending June 30, 1916. Rutland, 1916. 30 pp.

² It is explained that this number is small because employers were not compelled to report accidents prior to the creation of the industrial accident board.

³ Although representing 21 months, this is less than the number of accidents (5,337) reported to the industrial accident board in one year ending June 30, 1916, as disclosed in the report of that board.

NUMBER AND PER CENT OF INDUSTRIAL ACCIDENTS OCCURRING IN VERMONT FROM NOV. 1, 1914, TO NOV. 1, 1915, AND FROM NOV. 1, 1915, TO AUG. 1, 1916, BY NATURE OF INJURY.

Nature of injury.	Nov. 1, 1914, to Nov. 1, 1915.		Nov. 1, 1915, to Aug. 1, 1916.	
	Number.	Per cent.	Number.	Per cent.
Fatal.....	19	1.1	14	0.5
Injury to fingers.....	567	31.4	935	31.1
Bruises and crushings.....	407	22.5	728	24.3
Lacerations.....	274	15.2	360	12.0
Burns and scalds.....	68	3.5	116	3.9
Sprains, strains, and dislocations.....	98	5.4	152	5.1
Injury to eyes.....	164	9.1	366	12.2
Injury to head.....	55	3.0	89	3.0
Fractures.....	42	2.3	95	3.2
Loss of parts of fingers.....	28	1.5	43	1.4
Infection.....	23	1.3	64	2.1
Loss of fingers.....	21	1.2	18	.6
Broken ribs.....	17	.9		
Scalp wounds.....	15	.8	13	.4
General shaking up.....	9	.5	5	.2
Loss of hearing.....			2	.1
Loss of eyes.....			1	(¹)
Loss of hands.....	1	(¹)	1	(¹)
Total.....	1,808	100.0	3,002	100.0

¹ Less than one-tenth of 1 per cent.

In the report of the industrial accident board it is stated that practically every Vermont concern employing 11 or more men and every foreign concern, with 4 exceptions, many business concerns employing 10 or less men, and several municipal corporations, are now operating under the Vermont workmen's compensation law. This report, covering a different period from that of the factory inspector's report, necessarily does not agree as to the number of accidents reported. It is stated that during the first year, 5,043 ¹ accidents came within the jurisdiction of the board, and 294 were outside the jurisdiction of the board. This latter group, it is suggested, may be classified as minor injuries and injuries to employees in the four foreign firms referred to above. Thirty-seven ² fatal accidents are recorded, for which compensation amounting to \$24,613.12 was paid. The total compensation incurred by reason of all injuries is indicated in the following statement:

Compensation actually paid during the first year.....	\$66,764.26
Compensation which has been ordered and runs for a period of weeks.....	30,110.29
Compensation estimated, where dependents are in foreign countries and proof of dependency not yet obtained, and in cases where the order is made that compensation shall be paid during disability.....	7,233.71
Amount actually paid for medical services to injured employees.....	26,807.28
Medical expenses estimated.....	5,466.20
Funeral expenses paid in fatal cases.....	3,550.00
Total.....	139,931.74

¹ See Note 3, p. 424.

² Here again there is an apparent discrepancy, since this is a greater number of fatal accidents in one year than the factory inspector reports as having occurred in 21 months, which period included the year covered by the industrial accident board's report.

**REPORT OF THE MASSACHUSETTS SPECIAL RECESS COMMISSION ON
SOCIAL INSURANCE.**

The Massachusetts Special Recess Commission on Social Insurance submits reports on all four of the subjects which it was directed to investigate, viz: Sickness, unemployment, old age, and hours of labor in 24-hour a day industries.

On the four subjects investigated the commission submits 13 statements representing the opinions held by different members on the commission.

SICKNESS INSURANCE.

In the case of health insurance there are three statements, the first one is signed by Senator Farnsworth, the chairman of the commission, and by Allison G. Catheron, Representative Bowser, and Representative Woodill. After an extended discussion of the many features of health insurance these four state:

We are satisfied * * * that some plan for health insurance should be adopted as an important early step in the interests of social welfare.

A copy of the model bill, so called, drafted by the American Association for Labor Legislation and which was introduced in the legislature this year by Representative Young, is reprinted by the commission in the appendix of the report, and in making reference to it these members state:

In general the scheme of administration worked out in the bill seems likely to be successful. Further study and discussion will perhaps show the necessity of modifying the plan in some respects.

The commission also submits as a part of the appendix a statement relative to the cost of sickness to the wage earners in the Commonwealth based on an investigation conducted during the summer as to the extent of illness among the members of the 1,425 labor unions in the State. The total social and economic cost of sickness per annum among 1,507,373 gainfully employed persons receiving less than \$1,200 per year is totaled at \$38,770,167. The wage loss and medical cost in this estimate is placed at \$32,280,792, basing it on the assumption that each wage earner in the Commonwealth averages a loss of 8.5 days per year at an average daily loss of \$1.80, and calculating the medical cost at an estimated average of \$1 per day. The total cost to all concerned in administering a system of health insurance such as is proposed in the act submitted has been estimated at approximately \$23,000,000; of this under the proposed plan the share which the Commonwealth would have to contribute would be \$4,600,000. It is stated in the report that at the present time there are certain large items of expense which the Commonwealth and cities and towns are bearing from which they would be relieved if a health insurance plan, such as is proposed, were put into operation.

A separate statement on health insurance is submitted by two other members of the commission—Mr. John P. Meade of Brockton and Senator Edward G. Morris. Neither of these two members recommend the immediate enactment of any health insurance legislation. "There is sufficient knowledge available," they state, "to justify the opinion that the attitude of the State toward the problem should be one of careful inquiry." Further the report says:

The corner stone in the economic structure of the home is a living wage. Conditions in industry that would impair this vital principle should be guarded against. * * *

Compulsory systems of health insurance provide for contributions by employers, employees, and the State. Such a system enacted into Federal law would place all industries upon the same basis. The employers' contributions under such circumstances could be made a uniform charge upon production, and their part in the plan of insurance made to spread over a national area. With compulsory health insurance systems operating in Massachusetts and excluded from the other states in the Union, a condition would be created in our industrial life which would be distinctly harmful to some wage earners of the Commonwealth. Employers would certainly add the cost of insurance contributions to the price of their product. The consumer would in the final analysis pay this portion of the expense. Can this cost be passed to the consumer without doing injury to the wages of our Massachusetts workmen, who are employed in the industries of this State which are a factor in nation-wide competition? * * * Until the time arrives when we can safely consider an elaborate system of sickness insurance, it would seem that the Commonwealth might consider to its advantage some extension of our present system of medical administration.

Miss Edna L. Spencer who was appointed to the commission by Gov. McCall recommends the enactment of legislation establishing a maternity board, to be composed of three women and to be appointed by the Governor. Provision is made in the bill for benefits not to exceed \$50 per month and not less than \$10 and also for hospital care, home nursing, medicine, medical care and other obstetrical care.

MAJORITY REPORT ON UNEMPLOYMENT.

The majority report of the commission on the subject of unemployment is as follows:

The study and investigation of the subject of unemployment in this country has made clear to our commission the need of more constructive methods of dealing with this problem in Massachusetts. We believe the time has come when something must be done to increase the efficiency and opportunities for usefulness of the State employment offices to the public. We believe that the statutes should provide for an advisory council in each city where a State employment office is established, composed of equal representation by employers and employees.

The functions of this advisory council would include all matters of local administration that would tend to make the State office efficient in administering to the technical needs of employers and workmen in given industries. We concur in the recommendation that the State employment offices be gradually increased to a number sufficient to include all the important industrial centers of the Commonwealth.

We believe that their efficiency can be improved so that their capacity for usefulness to both capital and labor can be made productive of great value to the Commonwealth.

We believe and strongly recommend that if the State employment offices are to remain under the jurisdiction of the director of the bureau of statistics that he should be given power to select the most efficient men for the executive work of these offices. This might be done with the consent of the governor and council.

The utmost publicity should characterize their administration. In instances of labor difficulties it would be simply just and in accordance with the spirit of Massachusetts laws to have published statements from both sides of the controversy placed at the disposal of applicants for employment.

Public-service corporations which derive their franchises from the people, such as telephone or railroad corporations, should be considered in the integral thought of the prevention of unemployment, and made to give of their services at reduced cost toward bringing the person out of employment in speedy and inexpensive communication with those in need of labor.

It will be observed in our report on unemployment that there are many perplexing problems which would seem to require permanent supervision and attention. Constructive work in the solving of these problems can only be accomplished from small beginnings and the experience derived from continuous contact with them. The matter of regularizing industry, providing for temporary relief during periods of depression, reducing the loss of time by the worker engaged in casual labor, and the need of governmental supervision and regulation of the State office and private employment agencies makes necessary in our opinion the establishment of a State board of employment. This board should be an unpaid one and should consist of two employers of labor and two representatives of employees and a woman known to be interested in economic and industrial matters. This board should have a paid secretary and should be provided with such sums for expenses as the legislature may deem proper for the keeping of office records and a compiling of information necessary to its development.

OLD-AGE INSURANCE.

A majority of the commission recommend the principle of noncontributory age pensions. The same members are also in partial agreement as to the taxation of intangible property in the Commonwealth, as the best means of providing the necessary revenue for the payment of the pensions. Some of the members, however, regard it as the part of wisdom to await the results of the new income tax recently enacted in the Commonwealth, and if this new form of taxation reveals any such amount of intangible property as has at different times been estimated, they believe it might be made to form the chief means of supporting a system of noncontributory age pensions. The other members of the majority recommend immediate legislation establishing a State system of old-age pensions and suggest that the income from the intangible wealth in the State should bear the burden. Should the present income tax law prove inadequate in bringing to light enough property to yield a sufficient revenue for the payment of these pensions, these members suggest that it be left to the General Court to devise means of reaching this source of wealth.

Certain members of the commission do not regard this as the proper time to put into operation any State system of old age pensions.

While they are of the opinion that the contributory has more merit than the noncontributory system, they consider that the commission's study shows neither the need nor the demand to warrant the establishment of any age pension at the present time.

Some of the members who dissent from the majority report believe that when a system of pensions is established it should emanate from Federal rather than State authority. They believe that if the need has been established in Massachusetts, the need also exists in every State in the Union, and they regard it as useless to pass any State legislation solely on the ground that the popular demand is more insistent in Massachusetts than elsewhere.

HOURS OF LABOR IN 24-HOUR-A-DAY INDUSTRIES.

A majority of the members of the commission is unanimous in its recommendations for legislation limiting the hours of labor of tour workers in paper mills. Some of the members of the commission go further, however, and recommend an act extending the three-tour eight-hour provision to all so-called "continuous industries" in the Commonwealth. These members believe it would be unfairly discriminating for the commission to select the paper industry alone as the object of special legislation, without at the same time making provision for any other industry where similar conditions might exist.

Other members content themselves with recommending a bill which applies only to the tour workers in paper mills and its provisions are very similar to bills of this character filed in recent years with the legislature by the State branch of the American Federation of Labor and the Progressive Party. The bill in substance provides that no person employed as a tour worker in any paper mill which is in continuous operation day and night shall be required except in cases of emergency to work more than eight hours in any one day. A substantial fine is provided in case of failure to comply with the provisions of the act and the duty of enforcing the act is left to the State board of labor and industries.

Other members comprising a minority of the commission recommend legislation limiting the hours of men employed as tour workers in paper mills to 11. Those members who submit the 11-hour bill believe that for all practical purposes it will accomplish the desired end and at the same time do so without going to what they consider the extreme point of specifically recommending the establishment of the 8-hour three-shift system in continuous industries not already working under that plan.

Certain others, also constituting a minority of the commission maintain that the investigation by the commission has shown no such appeal or need as to warrant at this time legislative interference

in the case of any continuous industry. These members deem it the part of wisdom to leave the settlement of the hours of labor in the industries to the employers and men themselves. It is their belief that the three-four 8-hour plan is being adopted by the manufacturers as rapidly as industrial and labor conditions will permit.

Recommendations for three shifts of 8 hours for all industries, were signed by Senator Edward G. Morris, Wendell P. Thore, and Edna Lawrence Spencer.

Recommendations for 11 hours for four workers in paper mills were signed by Allison G. Catheron and Eden K. Bowser.

Recommendations for 8 hours for all four workers in paper mills were signed by John P. Meade and Senator Edward G. Morris.

Recommendations that no legislation be enacted now were signed by Senator Frank S. Farnsworth and Harry C. Woodill.

AGED AND DEPENDENT PERSONS IN MASSACHUSETTS.

At the time of taking the decennial census in Massachusetts in 1915 the director of the bureau of statistics, under authorization by the legislature, collected data relative to the number of persons 65 years of age and over and the length of their residence in the State; the number of dependent persons of the age indicated who were aided by various public and private institutions and the amount of aid granted by each class of institutions; the age, sex, nativity, and conjugal condition of these dependents; and the number receiving each classified amount from a specified source. This information is presented in a pamphlet of 107 pages, under date of December 15, 1916,¹ covering (1) census of the aged population, (2) expenditures for the relief of the aged population, (3) detailed statistical tables, and concluding with five appendixes.

This was the third investigation bearing on the subject of old-age pensions, the report of the first inquiry having been made early in 1910, and of the second in March, 1914. More than \$41,000 was expended by the State for these three investigations. In the last inquiry no attempt was made to obtain information as to aid rendered old persons by individuals, the inquiry being confined in all instances to institutions or organizations dispensing relief. The number of persons 65 years of age and over was ascertained as of date April 1, 1915, but information as to the number of persons receiving aid and the amount expended, which was taken from the records of the various institutions, covers the period of one year ending March 31, 1915. The following facts were brought out by the inquiry:

¹ Massachusetts. Bureau of statistics. Report of a special inquiry relative to aged and dependent persons in Massachusetts, 1915. Boston, 1916. 107 pp.

The number of persons 65 years of age and over in the Commonwealth as determined by the decennial census April 1, 1915, was 189,047.

The number of dependent persons 65 years of age and over aided in the Commonwealth, as ascertained by a canvass of 5,707 institutions, organizations, and other sources of such aid, for the year ending March 31, 1915, was 34,496 (14,673 males and 19,823 females), constituting about 18.2 per cent of the total population 65 years of age and over.

The amount of aid granted these aged dependent persons aggregated \$3,233,948.14, exclusive of United States pensions, the amount granted males being \$1,444,712.98 and the amount granted females being \$1,789,235.76. Classified into public and private relief, 26,403 were given public relief to the amount of \$2,250,685.91, and 9,862 were given private relief to the amount of \$983,262.83.

The per capita expenditure on account of persons receiving aid from all sources was \$93.75; for persons receiving aid from public sources, \$85.24; for persons receiving aid from private sources, \$99.70.

Approximately 73 per cent of those receiving aid received less than \$100 each, and 2.77 per cent received more than \$300 each.

Of the total 65 years of age and over, 114,638, or 60.6 per cent, were native born, and 14,409, or 39.4 per cent, were foreign born. Of the native born, 73,307, or 63.9 per cent, were born in Massachusetts. But of the 34,496 in the dependent class the nativity of 18,344 was ascertained and of this number 29.5 per cent were born in Massachusetts and 52.2 were foreign born.

Of the total number 94.9 per cent had been living in the State 10 years or more and of the dependents the period of residence of 23.3 per cent was ascertained, indicating that 80.3 per cent had been residing in the State for 30 years or more.

Considering a few of the above facts more in detail it may be interesting to note in the first place the number of persons receiving aid and the amount so received from each specified source, both public and private, as indicated in the following table:

NUMBER OF PERSONS 65 YEARS OF AGE AND OVER RECEIVING AID DURING THE FISCAL YEAR ENDING MARCH 31, 1915, AND AMOUNT OF AID RECEIVED, BY SOURCE OF AID AND BY SEX.

Source of aid.	Number of persons receiving aid. ¹				Amount of aid received.			
	Males.	Fe- males.	Total.	Per cent.	Males.	Females.	Total.	Per cent.
PUBLIC RELIEF.								
Penal institutions.....	656	38	694	1.9	\$26,693.25	\$2,298.93	\$28,992.18	0.9
State insane institu- tions and hospitals...	782	1,209	1,991	5.5	173,301.14	237,366.31	410,667.45	12.7
State pauper institu- tions.....	905	90	995	2.7	68,484.55	10,345.50	78,830.05	2.4
Overseers of poor.....	3,581	4,275	7,856	21.7	348,724.57	373,596.57	722,321.14	22.3
State and military aid..	4,441	5,924	10,365	28.6	296,426.86	367,514.46	663,941.32	20.5
Soldiers' relief.....	1,413	3,089	4,502	12.4	110,974.55	234,959.22	345,933.77	10.7
Total².....	11,778	14,625	26,403	72.8	1,024,604.92	1,226,080.99	2,250,685.91	69.6
PRIVATE RELIEF.								
Benevolent homes.....	1,337	1,603	2,940	8.1	292,454.03	309,825.91	602,279.94	18.6
Medical and insane in- stitutions.....	1,429	1,060	2,489	6.9	60,086.82	54,497.36	114,584.18	3.5
G. A. R. and auxiliary organizations.....	302	155	457	1.3	6,155.58	2,887.25	9,042.83	.3
Churches ³	124	481	605	1.7	6,063.06	31,267.31	37,330.37	1.2
Trust funds.....	182	1,178	1,360	3.8	7,683.05	61,709.81	69,392.86	2.1
Miscellaneous charities.	352	1,659	2,011	5.5	47,665.52	102,967.13	150,632.65	4.7
Total.....	3,726	6,136	9,862	27.2	420,108.06	563,154.77	983,262.83	30.4
Grand total.....	15,504	20,761	36,265	100.0	1,444,712.98	1,789,235.76	3,233,948.74	100.0

¹ The report states that "numerous instances were found where an individual was receiving aid from several sources." This explains why the totals in these columns are larger, aggregating 1,769, than given in the text.

² These totals do not include data with reference to United States pensioners.

³ Based on returns from 1,792 churches out of 2,220 which were canvassed.

Of the total dependents, 31.4 per cent were in the 70 to 74 age group, and 17.5 per cent were 80 years of age and over. As to the amounts received by these dependents,¹ the report shows that 1,618, or 4.38 per cent, were granted less than \$5; 5,405, or 14.64 per cent, were granted \$5 but less than \$25; 7,889, or 21.36 per cent, \$25 but less than \$50; 12,053, or 32.64 per cent, \$50 but less than \$100; 5,936, or 16.07 per cent, \$100 but less than \$200; 3,004, or 8.13 per cent, \$200 but less than \$300; and 1,026, or 2.78 per cent, \$300 and over. From this the conclusion is drawn that a pension as large as \$300 would be unnecessary in a very large number of cases.

These facts lead to the conclusion that whatever the maximum amount of pension granted any system of pension payments should be graded in accordance with the actual needs of the pensioner and, as in the case of the English system, the amount of pension should be determined by the income from other sources which a pensioner may be expected to receive coincidentally with the receipt of a pension.

¹ The following computations are made on the basis of 36,931 dependents, the report explaining that the figures here include a number of duplicated individuals who received aid from more than one source.

Most of the dependents cared for by private institutions were in so-called benevolent homes, the table on page 432 showing 2,940 persons, entailing a cost of \$602,279.94. In explaining the method of determining the net cost to the institution the report states that "all aged persons who contributed amounts which equaled or exceeded the cost of their care were not considered as aged dependent persons and were therefore eliminated from consideration."

ACCIDENTS AT METALLURGICAL WORKS IN THE UNITED STATES DURING 1915.

The Bureau of Mines has published its second report ¹ on accidents at metallurgical works, the first being for the calendar years 1913 and 1914 (Technical Paper 124), which was noticed in the MONTHLY REVIEW for May, 1916, page 89. These latest figures cover the returns from 110 smelting plants in 1915 as compared with 94 in 1914, and include copper, lead, and zinc, and quicksilver smelters, as well as refineries. The iron blast furnaces are not included in the figures given. The number of ore-dressing plants reporting in 1915 was 560 as compared with 484 in 1914 and 311 in 1913. These represent concentrating plants for copper, lead, and zinc ores, stamp mills, cyanide plants, and iron-ore washers. A larger number of operators reported for the year 1915 than did for 1914, as indicated above. The total number of men reported employed in the metallurgical plants, both smelters and ore-dressing plants, was 49,891 as compared with 41,461 in 1914.

The number of fatalities reported at metallurgical plants was 68, at ore-dressing plants 30, and at smelters 38. The number of nonfatal injuries reported at ore-dressing plants was 2,095 and at smelters 5,718. Of the injuries reported 3 were permanent total disabilities, 1 at an ore-dressing plant and 2 at smelters. There were 63 permanent partial disabilities at ore-dressing plants and 87 at smelters.

In the following table, drawn from reports of the Bureau of Mines, the fatality and injury rates are shown where possible for the two years 1914 and 1915 in the different mineral industries in the United States.

¹ United States Bureau of Mines. Technical Paper 164. Accidents at Metallurgical Works in the United States during the calendar year 1915. Washington, 1916. 20 pp.

434 MONTHLY REVIEW OF THE BUREAU OF LABOR STATISTICS.

SUMMARY OF LABOR AND ACCIDENTS IN THE MINERAL INDUSTRIES, UNITED STATES.

Industry and year.	Day's work performed.	Employees.		Killed.			Injured.		
		Actual.	On 300-day basis.	Actual number.	Per 1,000 employees.	Per 1,000 300-day workers.	Actual number.	Per 1,000 employees.	Per 1,000 300-day workers.
Metal mines:									
1914 ¹	42,785,840	158,115	142,619	559	3.54	3.92	30,216	191.10	211.87
Ore-dressing plants:									
1914.....	4,567,529	15,128	15,225	23	1.52	1.51	1,434	² 94.79	94.19
1915.....	5,732,184	18,564	19,107	30	1.62	1.57	2,095	112.85	109.65
Smelters: ³									
1914.....	9,700,769	27,879	32,336	33	⁴ 1.18	1.02	5,673	⁵ 203.49	175.44
1915.....	10,878,486	31,327	36,262	38	1.21	1.05	5,718	182.53	157.69
Coal mines:									
1914.....	157,979,295	763,185	526,598	2,454	3.22	4.67	.....	.....	.....
1915.....	.....	767,554	.....	2,266	2.95	.....	.....	.....	.....
Coke ovens:									
1914.....	6,372,259	22,313	21,241	45	2.02	2.12	2,189	98.10	103.06
1915.....	9,424,476	31,060	31,415	38	1.22	1.21	2,852	91.82	90.78
Quarries:									
1914 ¹	20,456,157	87,936	68,187	180	2.05	2.64	7,836	89.11	114.92

¹ No figures for 1915.² In Technical Paper 164 this rate is given as 96.71.³ Not including the iron and steel industry.⁴ In Technical Paper 164 this rate is given as 1.19.⁵ In Technical Paper 164 this rate is given as 203.12.

SAFETY WORK OF THE NEW JERSEY DEPARTMENT OF LABOR.

The latest annual report of the New Jersey department of labor covers the year ending October 31, 1915.¹ It contains reports of the activities of the various bureaus and divisions, and includes also specifications for standard safeguards, an account of what the department has accomplished through its division of hygiene and sanitation in the minimizing of occupational hazards in a number of specified industries, the work of enforcing the child-labor laws and of giving protection to women workers, methods pursued and the scope of the records taken in making factory inspections, and a statement of orders issued based on inspection surveys.

Considerable attention is given to the work done by the division of hygiene and sanitation. Following a brief discussion of industrial tuberculosis the report presents a partial list of industrial hazards recognized by the department and which have been eliminated or are in course of special investigation. These include lead poisoning, lead fumes, lead dust, mercury poisoning, arsenic compounds, turpentine poisoning, sulphuric-acid poisoning, carbon-bisulphide poisoning, nitrous poisoning, wood-alcohol poisoning, brass poisoning, phenol poisoning, nitrobenzol poisoning, chrome poisoning, carbon-monoxide poisoning, carbon dioxide poisoning, benzene poisoning, and anilin poisoning. It is stated to be the desire of the department to publish a standardization of actual installations for the removal of dusts and fume, covering specific gravities; centrifugal force; natural lines

¹ New Jersey. Report of the department of labor, 1915. Camden, 1916. 80 pp. Illustrated.

of fume curve; and all recorded data as to the most economical and effective methods of protecting the worker exposed to special hazard, the thought being "that such publications would not only be of inestimable benefit to those endeavoring to conserve the health of New Jersey's thousands of operatives, but that it would also be of benefit to the industries concerned and an incentive to manufacturers in other States to adopt a uniform sanitary standard."

A brief account of special investigations in potteries, porcelain plants, flint mills, lithographing plants, linoleum plants and in the manufacture of pearl buttons and novelties, is given, showing the occupational dangers to which operatives are exposed and pointing out how many of these dangers have been removed or at least minimized. In the potteries the greatest danger to workers appears to be the presence of flint dust, but after several years' study the department devised a method of mechanical exhaust which it is expected will eliminate this danger. The pearl-button industry offers another serious danger to workers because the dust is sharp, cutting, and brittle, and induces fibroid phthisis, which usually develops into tuberculosis. The department, however, appears to have combated this hazard. In lithographing the danger is in the use of injurious compounds.

In its work of enforcing the dust, heat, and fume act the report states that the department has proceeded on the theory that the proper place to control these is at the point where they originate, and that if this can not be done by natural or mechanical means, the factory construction should be made to conform to positive standards which will reasonably insure the safety and health of persons employed.

In connection with the employment of children, 12,783 sets of proofs were passed by the department as complying with the provisions of the law. Because of the necessity of filing age and schooling certificates it is stated that many employers are preferring to employ children over 16 years of age. During the year 105 discharges were ordered, most of them because the requisite age and schooling certificates had not been filed and also because children under 16 years of age had been employed more than 8 hours a day and 48 hours a week as provided by law.

The department received reports of 7,080 nonfatal and 268 fatal accidents,¹ reviewed every compensation settlement, and also took up every irregular case with the employer and insurance carrier "with the very gratifying result that almost all accidental errors, and those resulting from misinterpretation of the statute, have received correction, and the injured employee has obtained the additional amount due under the law."

¹ A detailed report covering compensation matters may be found in the annual report of the Employers' Liability Commission for 1915, noted in the MONTHLY REVIEW for September, 1916, pp. 340-342.

**FIFTH ANNUAL SAFETY CONGRESS OF THE NATIONAL SAFETY COUNCIL,
DETROIT, OCTOBER 17 TO 20, 1916.**

The National Safety Council stands for accident prevention and health conservation. Its watchword is universal safety, and upon this standard were focused the thought and experiences of those who, in general discussion and in special addresses presented at the Fifth Annual Safety Congress, held in the Hotel Statler, Detroit, October 17 to 20, 1916, inclusive, gave expression to their convictions founded upon the results of the study of safety in industrial activities. The program of this congress was printed in the MONTHLY REVIEW for October, 1916, pages 463 to 468, and the proceedings are contained in a recently issued volume of 1,541 pages,¹ presenting an account of the business meeting, the general round-table meeting, the special meeting to consider the report of the universal danger sign committee, the banquet, and sectional meetings relating to electric street railways; cement; textiles; logging, lumber, and woodworking; iron and steel; health service; governmental; public safety; mining; steam railroads; foundries; paper and pulp; public utilities; employees' benefit associations; and chemical.

To give even a brief digest of all the papers that were read, together with the discussion that each provoked, would be impracticable even if a profitable use of space and only a few of the more important suggestions made by those who took part will receive attention.

At the business meeting, which was devoted largely to reports of officers and of committees and of local councils, several activities of the council were emphasized. Thus a compilation of the best information obtainable about safe practices is proposed and pamphlets dealing with this matter are being issued; the celebration of October 9 as national fire and accident prevention day has been instituted; preaching accident prevention in the homes is planned, and lectures on safety are being delivered under the direction of the educational committee.

How to maintain interest in safety was the keynote of the general round-table discussion. This may be accomplished by holding superintendents and foremen absolutely responsible for every accident that occurs; by showing the employer that safety is profitable; by introducing into compensation laws a self-insurance feature instead of providing a State fund or insurance in private companies; by shop magazines; by the daily press.

The council adopted the report of the universal danger-sign committee, which recommended the use of the term "caution emblem" instead of "danger emblem," and proposed as this emblem a 12-inch square to be hung by one corner, with a black margin $1\frac{1}{4}$ inches wide

¹ Proceedings of the National Safety Council, Fifth Annual Safety Congress, held at the Hotel Statler, Detroit, Mich., Oct. 17, 18, 19, and 20, 1916. 1,541 pp. Price, \$2.50.

and 1½-inch black stripes, vertical and horizontal, from the corners toward the center, and touching a 6½-inch red disk. It was also decided to take steps to have the universal caution emblem protected both as to its use and misuse.

A feature of the electric railway sectional meeting was the adoption of a report of the standardization committee, which recommended, among other things, the near-side stop, universal danger signs, means for preventing grade-crossing accidents, and an effort toward standardization of traffic and vehicular regulations throughout the country.

An important fact brought out in this sectional meeting was that systematic safety on railways tends to foster public good will and to make better employees.

In the cement sectional meeting it was stated that accident prevention in this industry resulted in a material reduction (14 per cent) in the accident-frequency rate in 1915 over 1914 and that one insurance company in the past few years has reduced its premium on compensation and liability insurance 66 per cent.

The textile sectional meeting developed the importance of issuing safety bulletins in foreign languages.

In a paper read before the iron and steel sectional meeting it was shown that in this industry accidents have diminished as a result of safety methods, the frequency rate in one large plant decreasing from 370 per 1,000 in 1900 to 115 per 1,000 in 1913. The place of the visiting nurse in industry was discussed.

The health service section was organized at the fourth annual safety congress. At this its first meeting emphasis was laid upon the necessity of installing employees' safety departments in industrial concerns; of protecting the health of workers just as it is necessary to safeguard machinery; of conducting physical examinations of workers before employment and at intervals after employment; of instruction in first aid; and of realizing the relation between employment, medical supervision, and safety. One phase of the safety movement in industry upon which the health-service section is working is the standardization of industrial hygiene, covering ventilation, illumination, factory sanitation, etc.

In the governmental sectional meeting it was suggested that industrial accident statistics and Federal and State regulation covering various classes of hazards should be standardized, and the opinion seemed to prevail that the Federal Government should take the lead in this respect.

Carelessness and recklessness as causes of accidents and the necessity for education as the prime factor in safety work were emphasized in papers presented at the public service sectional meeting. One paper outlined in detail an ideal organization for public safety in a community.

One of the most hazardous industries in this country is mining, where the need for safety work is essential. Much progress has been made, according to speakers at the mining sectional meeting, under the inspirational direction of the United States Bureau of Mines, resulting in an accident rate of 3.09 per 1,000 men employed in 1915 "which is the lowest recorded since 1898. The production of coal per fatality in 1915 was 228,600 tons, which is the largest production per fatality during the history of coal mining in the United States."

That passengers on the trains of American railroads are practically immune from death or serious injury was asserted at the steam railroad sectional meeting, the chairman calling attention to the fact that the principal effort of railroad managements must not be to prevent the occasional big accidents, "which are becoming more and more infrequent," but rather to prevent the "little everyday individual tragedies, which can only be prevented by the exercise of greater care on the part of the human being involved in such tragedies." One railroad company found upon analyzing its accident record that only 10 per cent of the injuries to the more than a hundred thousand railroad employees in the country each year are in so-called train accidents, and that the other 90 per cent met their fate in little accidents in which the human element was the principal contributing factor. This was recognized as the problem before the railroads, a problem which they must meet by education and proper supervision of the human force. In this the passenger himself may cooperate. The dangers of trespassing on railroad right of ways was emphasized and the need for legislation to prevent it was urged.

The matter of successfully combatting the human element as the cause of industrial accidents also engaged the attention of the public utility sectional meeting. The overcoming of passiveness among employees, the company, and the public itself is essential in reducing public utility accidents. So important is this human element regarded in this connection that one plant posted a notice reading, "If workmen insist on being careless, discharge them."

In the employees' benefit associations sectional meeting the need was recognized of securing from such benefit associations reliable statistical data as to the time lost by workingmen on account of sickness and accident, to be used in framing laws relative to workmen's compensation, sickness, accident, old-age, and unemployment insurance. Instead of forming a permanent employees' benefit associations section the matter of industrial insurance, in which these organizations are chiefly interested, was left to be investigated, studied, and constructively cared for by the health service section.

It was stated at the chemical sectional meeting that the chemical industry is the most hazardous of all. "Other industries may and do contain one or more of the industrial hazards. The chemical

has them all." One of the most dangerous hazards is the poisons encountered either as raw material or generated in the processes of manufacture. There are also mechanical hazards. Suggestions were given for avoiding or minimizing the results arising from coming in contact with the many poisons used in the form of liquids, dust, and fumes.

PREVENTIVE MEDICINE AND SURGERY, A NEW FIELD OF INDUSTRIAL ENDEAVOR.

It is only in comparatively recent years that the importance of preventive medicine and surgery in industry, which contemplate the conservation of life by the prevention of disease and accident among employees, has been emphasized as of essential value in promoting the efficiency of workers and establishing cordial relations between employer and employee. The development of this new specialty in industry, what it has accomplished where given a fair trial, and the opportunity it affords for extending medical science into this vast unlimited field of endeavor, were traced by Dr. Harry E. Mock, of Chicago, in a paper read before the section on preventive medicine and public health at the sixty-seventh annual session of the American Medical Association, held at Detroit, in June, 1916.¹

In many industries, it was stated, the first duty of the company surgeon has been the care of those meeting with accident, very little attention being paid to protecting the health and the working ability of the individual employee.

But when a company surgeon realizes that for greater efficiency an employer has the right to demand a healthy, physically and mentally normal working force; and that the employee would be, and is, justified in demanding a healthful, sanitary working place, uncontaminated by diseased fellow employees; and that business principles, as well as a spirit of humanitarianism, demand all his powers for the conservation of the life and limbs of the employee; and when he attains the vision of all that this means and brings to his work an undying enthusiasm and a knowledge sufficient to master every detail then he becomes of unlimited value to the concern for which he works, and is remunerated accordingly.

Dr. Mock suggested that the company surgeon of the future must be a very broadly trained physician, and that in order to build up a great name and prestige in a community, and thereby be of greater value to the industry with which he is connected and exert a greater influence over the employees, he should devote only a portion of his time to the immediate work in hand, leaving himself an opportunity to study, engage in clinics, and enjoy the broadening influence of private and public work.

In the realm of preventive surgery, when an accident occurs the industrial surgeon handles the case with four fundamental principles

¹ Industrial Medicine and Surgery: The New Specialty, by Harry E. Mock, M. D. Published in the Journal of the American Medical Association, 535 North Dearborn Street, Chicago, Jan. 6, 1917, pp. 1-4.

in mind: (1) How to prevent a recurrence of the accident; (2) how to aid recovery the quickest; (3) how to prevent permanent disability; and (4) how to avoid a fatal termination of the case. "The best surgeon of the future, whether engaged in industrial work or otherwise, will be the surgeon who is very conservative in operating, but very radical in the prevention of all causes that make surgery necessary." He must cooperate with the safety engineer in preventing accidents by carefully analyzing every accident that comes to him for treatment, and if it is shown that the fault lies with the employee himself, the surgeon should make a thorough physical examination and mental test of the individual and an examination of the working and home conditions of the employee. The prime duty of preventive surgery is the removal of the cause of an accident, which is "the most logical and most economic form of service that he can render to the employee or employer."

Another most important duty of preventive surgery is declared to be the immediate care of everyone injured, no matter how slightly, and this is finding expression in the first-aid movement which is now generally accepted as essential in industry. Illustrating the importance of immediate attention to injuries, reference was made to statistics obtained by the speaker which show that it is the minor accidents such as scratches, pin pricks, nail wounds, splinters, and small cuts, that cause the largest amount of disabilities, usually resulting in infection. To combat these minor accidents, an educational campaign among employees is necessary. In the opinion of the speaker, "the best preventive surgery measure thus far adopted is the immediate use of tincture of iodine on all wounds that break the skin," a 5 per cent solution being considered sufficient. "Many employees so have the habit of using hydrogen peroxide that it is difficult to replace this usually inert liquid with the iodine." Every department of a large establishment, it was suggested, should be supplied with from 1 to 10 bottles of tincture of iodine and applicators, with directions telling the employee to paint at once with the iodine every wound no matter how slight and then report to the doctor's office at once. The order of this procedure was very strongly emphasized. The immediate disinfection of the wound is essential, and this, with the application of dressings afterwards, gives the results.

The results of this treatment appear to warrant its use. In a certain establishment there was, from 1909 to 1912, a reduction of 38 per cent in the number of hand infections. In 1912, out of 2,693 accident cases, 28.6 per cent became infected. In 1915, out of 5,000 accident cases, 10 per cent became infected.

Most of the infections in 1915 occurred among new employees and all of them except 24 failed to follow the instructions concerning the use of iodine and reporting at once. Not a one of the 24 who used iodine was infected sufficiently to require opening,

neither did they lose any time from work. Thus among the injured employees who use iodine at once and report to the doctor at once, less than two-tenths of 1 per cent become infected.

Closely allied to preventive surgery is preventive medicine, which seeks by the proper and thorough medical examination of workers and sanitation in the plant to protect the health of employees. This examination, it was stated, should have the following purposes:

1. To ascertain the condition of health of each employee and to give personal advice to those who need it along the lines applicable to their cases.
2. To discover diseases among the employees in the earliest stages and therefore while still curable. Many diseases of which there was no knowledge are thus discovered, and the afflicted employee is advised as to methods to overcome the trouble or at least to prevent its advancement. Many of these are referred to the family physician months before the patient would voluntarily seek his counsel.
3. To find anyone who has contracted a disease that might be communicated to a fellow employee. Tuberculosis is the chief of these diseases. Not only is the working force protected from contamination, but the disease is usually found in such an early stage that practically always a cure is possible.
4. To discover the chronically diseased employee who is still able to work, and to recommend for him a position where he will be efficient and which will not hasten the course of his disease.
5. To prevent those with contagious diseases from mingling with our healthy employees.
6. To prevent those with serious diseased conditions from going to work, for their own protection.
7. To choose the proper type of work for those with some chronic disease which does not totally unfit them.

In order that the doctor may advise those physically needing such help he should come in personal contact with the employees and become their friend, teacher, and kindly adviser, thus gaining their absolute confidence.

In a personal examination of 15,151 old employees in 1914 and 1915, 27 per cent were found with definite diseased conditions, while a great number of very minor defects were found but not classified. None of these employees was discharged, but each was advised as to the best method to overcome or control his disease; many were given vacations or free hospital or sanitarium care; others were referred to their family physicians. During the same period 13,764 applicants for work were examined and 19.9 per cent had definite diseased conditions, but only 3.4 per cent of these were rejected for employment, such rejections being on account of the applicant having some diseased condition which made work in the plant detrimental to him or some contagious disease which might be spread to the active working force.

To meet the problem of taking care of the 3 to 5 per cent rejected as physically unfit Dr. Mock suggested the necessity of State or Federal control of the supervision of health of employees, State or

Federal health-insurance laws, insurance against nonemployment, and old-age pensions.

All matters connected with the sanitation of factories and the personal hygiene of every employee, his recreation and exercise, his housing conditions or home environment, and his personal habits, are legitimately within the scope of the duties of the industrial surgeon. To assist him in this work the industrial visiting nurse and the industrial dentist are essential.

MEDICAL SUPERVISION OF FACTORY EMPLOYEES.

The results achieved by the department of health and sanitation at the Norton Co. and the Norton Grinding Co., Worcester, Mass., from May, 1911, to May, 1916, are set forth in a paper, entitled "Medical supervision of factory employees," prepared by Dr. W. Irving Clark and read before the section on preventive medicine and public health at the sixty-seventh annual session of the American Medical Association at Detroit, in June, 1916.¹ The speaker stated that the medical department in a factory has five functions: (1) To make physical examinations of all prospective employees, and reexamine all defective employees; (2) to treat accidents immediately after they occur, and subsequent treatments; (3) examining and advising cases of sickness; (4) the control of sanitation throughout the works; and (5) health publicity; and briefly discussed each function and its relation to the employment of workers and to the working force. He advocated not only medical examination of prospective employees, but examination of those transferred from one department to another, and periodical examinations about once in six months of all men having defects of a nature which is serious enough to require inspection, and stated that rejections² should be made only when absolutely necessary, as many men are perfectly capable of doing work in a certain department though unfitted for work elsewhere. The examination should be very complete. Considerable emphasis was laid upon the importance of blood pressure and the examination of the feet.

Under the supervision of Dr. Clark applicants are arbitrarily rejected who are over 45 years of age and who have (1) only one eye, (2) vision reduced to one-half in both eyes, (3) contagious diseases, including tuberculosis, (4) more than a second degree hernia, (5) heart disease with disturbed compensation, (6) varicose ulcer, (7) fourth and fifth degree flatfoot where the arches apparently give

¹ Published in the Journal of the American Medical Association, 535 North Dearborn Street, Chicago, Jan. 6, 1917, pp. 5-8.

² Rejections, it is explained, are made by the employment department. The term as here used refers to medical risk as reported to the employment department.

trouble, and (8) marked hypertension. It was found that 20 men over 45 years of age who were rejected had 39 defects sufficient to debar the applicant even if his age were under 45 years. Following an examination of 2,618 applicants, 100 were rejected, 20 per cent being on account of age (over 45), 35 per cent on account of eye defects, 32 per cent because of hernia, and 13 per cent because of defects of the lungs and heart, venereal diseases, nephritis and hypertension, and other defects.

Very few applicants were found who had no defects. A large number had minor defects. During the first three months of 1916, 1,379 prospective employees were examined, the last thousand consecutive cases revealing 50 cases of hernia, 100 defects of eyes, 106 defects of the inguinal region, 148 defects of the nose, 311 cases of flatfoot, 339 defects of the extremities, and 569 defects of the teeth, besides defects of the ears, neck, throat, heart, lungs, spine, skin, as well as cases of endocarditis and mitral insufficiency, pulmonary tuberculosis, and genito-urinary defects. In all, 1,956 minor defects were found in these 1,000 cases.

Five years' experience with physical examination of employees in a factory employing about 2,800 led to the following conclusions:

1. The average workman does not object to physical examination, and the majority of them are pleased to have such an examination made on account of the information it gives them, and because it throws them in intimate contact with the doctor to whom they are going to apply afterwards in case of sickness or accident.

2. A physical examination can not be too complete. The most complete form of examination the average man requires takes 10 minutes, provided a urinalysis is not done.

3. Periodic examinations of markedly defective men tend to keep such employees in good condition and prevent an increase in their defects.

4. As it is impossible to employ men who have no physical defects, a physical examination enables us to place men in departments where they will suffer the least risk and maintain the highest degree of physical efficiency.

5. A fresh examination each time a man is transferred from one department to another prevents the possibility of a man being assigned to work for which he is not physically adapted.

6. A periodic examination of the entire force once a year is not necessary because the examination is made each time a man is sent from one department to another, and because all men having any sickness or accident apply to the hospital and are there examined if there is anything indicating the necessity for such an examination.

7. The number of rejections, even with a rather highly restricted list of defects, is very small, and is no argument against but rather an argument for the advisability of physical examinations.

The writer emphasized the importance of requiring the prompt reporting of all accidents to the department of health and sanitation. This policy, he stated, has resulted in reducing to a minimum the time lost because of accidents. "We have never had a case of sepsis," that is, pain, heat, and redness accompanied by swelling,

which is considered an excellent record in the treatment of an average of 241 accidents per month. During the month of April (year not given) 474 accidents were treated, and only one man was injured severely enough to keep him from work 14 days and thus entitle him to compensation. From May, 1915, to May, 1916, 2,895 cases were treated.

The wound is first thoroughly washed with commercial gasoline. The gasoline is slushed on and used like water, being poured not only over the wound but into the wound itself, and a rather vigorous scrubbing is given the surrounding skin with sterile gauze. Immediately after this, tincture of iodine, U. S. P., is poured into the wound and over the skin. This is allowed to dry and a sterile gauze dressing is applied. If for any reason we suspect the wound of being pretty dirty, a second dose of iodine is poured on after the first is applied. * * * Iodine to be 100 per cent efficient as an antiseptic must be used within 30 minutes of the receipt of a wound. The efficiency decreases 25 per cent every 15 minutes beyond this time. After two hours it is almost useless.

After calling attention to the importance of the shop hospital, the experience of the Norton Co. with accidents during a period of five years was thus summed up:

1. A very little inducement will bring every accident, no matter how slight, to the shop hospital for treatment.
2. The shop hospital is the place to treat accidents of all kinds, and first aid should not be done in the shop unless it is absolutely necessary to save life.
3. Gasoline followed by tincture of iodine is the best antiseptic, and if used within 15 minutes is practically sure of producing a clean wound.
4. Safety engineering has reduced the number of serious accidents to the absolute minimum, but is unable to reduce the very slight minor cuts and smaller injuries, the latter depending on the personal element of the employee.

In the treatment of sickness Dr. Clark outlined the policy of his factory as follows:

1. Our treatment of sickness is preventive, not curative.
2. Our effort in serious sickness is to diagnose and see that the man gets immediate attention from his family physician or from a specialist where one is indicated.
3. We believe that a man with a temperature of 100.4 should not be allowed to work and should not be allowed to return to work until his temperature has reached normal and all signs of the disease have disappeared.
4. By arranging that all men feeling sick must come to the shop hospital, we have prevented a large amount of sickness and have isolated a number of contagious diseases in the last five years, besides in many cases saving life through early diagnosis in such cases as acute appendicitis.
5. Such treatment will materially reduce the time lost by employees throughout the shop.

The company has a system of following up employees who are absent on account of sickness in order to be sure that—

1. No man has received an accident and failed to have it cared for at the medical department.
2. An employee has not a contagious disease which is unknown to the medical department.

3. No employee who is sick has failed to receive adequate medical care on account of his financial condition.

4. A patient who has been coming regularly to the hospital is not absent from work because of some trouble arising from the injury.

In the Norton Co. the entire cleaning of toilets, wash rooms, as well as the removal of rubbish, garbage, and paper are controlled by the department of health and sanitation. Educational work is carried on by means of leaflets written in simple, clear language on the subject of hygiene and general medicine, and placed in the pay envelopes.

MEDICAL SUPERVISION OF STREET RAILWAY EMPLOYEES.

In a paper on "Medical supervision of street railway employees"¹ read before the section on preventive medicine and public health at the sixty-seventh annual session of the American Medical Association, held at Detroit in June, 1916, the author, Dr. Charles H. Lemon, chief surgeon of the Milwaukee Electric Railway & Light Co., pointed out that the railroads have recognized for more than half a century that injuries incident to operation were properly chargeable to the cost of operation, and that the first important lesson that industry must learn is that any kind of efficiency that is not based on a sound, alert, well-balanced human machine is bound to be economically disastrous. The railroads, it was stated, are giving expression to this principle by employing company doctors to supervise the general health of workers, to conduct medical examinations not only preliminary to employment so as to eliminate those unfitted for work, but to subject each employee to a physical examination at intervals during employment in order that the efficiency of the organization may be maintained.

The experience of the Milwaukee Street Railway & Light Co. was cited. As the result of a campaign of education both within and without the company for the prevention of accidents, and "of a careful preliminary examination of employees as well as a maintained high level of health incident to a very close supervision of the general health, by dividing the men employed into groups in which they could be daily observed and in which the relief from the lesser ills which lead to greater could be had without delay," accidents were reduced both as affecting the industry itself and the passengers who rode on the cars. Thus it was stated that in 1915 the cost for injuries and damages was nearly \$100,000 less than in the preceding year, and the average sickness per man per year was reduced from eight days in 1913 to a little more than four days per man per year.

¹ Published in the Journal of the American Medical Association, 535 North Dearborn Street, Chicago, Jan. 13, 1917, pp. 95-98.

Experiencing a loss in efficiency of trainmen in 1914, amounting to about 15 per cent, because of alleged sickness, the company, in cooperation with the employees' mutual benefit association, representing the trainmen and other workmen, placed medical men in each car station and large shop to minister to the men who complained of sickness before the sickness became disabling. The speaker stated that a beneficial effect was immediately noted and that in January, 1916, in one of the largest stations, there were only 623 days of sickness among more than 600 men.

The Milwaukee Electric Railway & Light Co., according to Dr. Lemon, has demonstrated that any street railway company employing a staff of surgeons can undertake large welfare activities for the betterment and the health of its employees, their wives and dependents, at comparatively little expense.

With a contribution of \$6 per year per man for each member of the [employees' benefit] association, and an additional \$6 per man per year contributed by the company itself; together with the voluntary services without pay of the officers and other employees of the company; in addition to paying \$1 per day for 100 days of continuous sickness, and 50 cents per day thereafter for a second 100 days, and \$300 for a death; the giving of all medical and surgical services free to its members, including the services of a welfare secretary and a visiting nurse, in a short period of four years the employees' mutual benefit association has accumulated a reserve fund amounting to approximately \$50,000.

This service has apparently proved of very great value to the company and to the employees in their mutual relations. Besides the association referred to, there has been organized a savings and loan association, additional life insurance, sick and accident insurance, a provident loan fund where money can be had without interest, old-age pensions, a woman's auxiliary, indoor baseball, bowling, outdoor baseball, a band, a dramatic club, and all the auxiliaries which go to make up healthful recreation and promote happiness.

The welfare secretary of the company has suggested a measure of the work being done by the company in conserving the health and well being of its employees, as follows:

Beginning in 1912 with the employees' mutual benefit association, which was organized primarily to create, manage, and distribute a fund to provide free medical assistance for members unable to work because of sickness or because of accident, when not within and subject to the provisions of the workmen's compensation act, the association has become a most efficient machine for conserving the health of those who work for this company, as well as by caring for their dependents whenever disease or accident necessitates medical or surgical aid. We have seen this association expand far beyond the limitation contemplated as its field of operation when it was first organized. Its greatest field of usefulness has not been the payment of sick benefits or death claims, but rather the conservation of the health of its members. Through the opening of doctors' offices at places of employment, it has been possible to reduce the amount of time lost on account of sickness by fully 40 per cent, making a total annual saving of something more than 10,000 work days.

THE HOSPITAL AND INDUSTRIAL HYGIENE.¹

The relations of a hospital to industrial hygiene may be many. For any individual hospital such relations must be limited and defined according to that hospital's industrial environment, the resources available, and the interest and time which can be devoted to the subject. But for any investment of effort, whatever it may be, the return is always overwhelmingly great.

Such is the concluding paragraph of the paper read by Dr. Wade Wright of the Massachusetts General Hospital, Boston, at the meeting of the American Public Health Association in October, 1916. In leading up to this conclusion Dr. Wright noted several important relations which the hospital bears to industrial hygiene. In the first place it is the obligation of the hospital to provide for the study of industrial diseases—an obligation which “is the more imperative because of the prevalent ignorance among physicians of the hazards of various occupations and trade processes and of the ill health dependent upon such hazards.” Factory inspection is inadequate; the living conditions, individual and family income, nutrition, and personal hygiene of workers must be studied.

The fundamental medical sciences, as physiology, pathology, and biological chemistry, are as definitely involved in the study of industrial diseases as are the branches of clinical medicine, but all of these must be supplemented by a third critically important element, namely, knowledge of actual working conditions and of the hazards of specific industries and trade processes.

To this knowledge a hospital, especially one in an industrial center, is able to contribute because its equipment renders possible research in industrial diseases at a small cost, enabling it to inquire fully into the occupational history of each patient and, correlating such information with physical findings, to make the facts obtained known to industrial physicians, special investigators, and private practitioners, and thus establish “the only effective and just means of securing the advances in the prevention of industrial diseases now so truly needed.”

The second important relation of the hospital, according to Dr. Wright, is its obligation to teach the principles of industrial hygiene, not only to its own staff and to medical students, but to nurses who are increasingly in demand in industrial establishments, to social workers, to the patients themselves, to labor organizations, and to employers and factory superintendents.

Finally, the hospital bears an important relation to vocational guidance. This “is a most important function of the medical profession, and it is such no less now of the hospital clinician than it has been of the family practitioner. No physician should prescribe for his patient a job regarding which he himself knows little or nothing any more than he would prescribe for his patient an unknown drug.”

¹ Summary of paper read at the forty-fourth annual meeting of the American Public Health Association, section on industrial hygiene, Cincinnati, Ohio, Oct. 24-27, 1916. A brief account of the meeting of this section appears in the MONTHLY REVIEW for December, 1916, pp. 729-731.

RELATION OF THE PUBLIC HEALTH SERVICE TO PROBLEMS OF INDUSTRIAL HYGIENE.¹

At the meeting of the American Public Health Association in October, 1916, Dr. J. W. Kerr, assistant surgeon, United States Public Health Service, read a paper before the section on sociology and industrial hygiene, on the "Relation of the Public Health Service to problems of industrial hygiene." In this paper he pointed out that the Public Health Service was organized "to investigate unhygienic conditions reacting adversely upon the health of man, and to disseminate the information acquired, as well as to suggest measures for their control." Most of the paper was devoted to a recital of how the Public Health Service has been brought into touch with problems of industrial hygiene, mention being made of a number of specific instances wherein this branch of the Federal Government has cooperated to reduce the dangers to which workers are constantly exposed, and the fact emphasized that "the health of the individual worker is dependent upon many factors, the majority of which are operative outside of places of employment. In consequence every insanitary condition must be inquired into. For instance, in studies of high death rate from tuberculosis among workers in particular occupations, inquiries as to fatigue, dust, overcrowding, and other unhygienic conditions in workshops, must be supplemented by studies of personal habits and health conditions in the home and in the community." Attention was called to the fact that the scope of industrial hygiene has been broadened in recent years to include "in addition to 'first aid,' 'safety first,' 'physical examinations,' and sanitation of workshops, consideration of all the conditions of living and habits of individuals outside of the factory affecting human efficiency. This embraces many functions which it is the special province of health authorities to perform." Bearing in mind the limited authority of the Federal Government in this connection—authority extending only over foreign intercourse, interstate intercourse, Federal territory, etc.—the author thus summarized the functions which may properly be considered by the Public Health Service in relation to industrial hygiene:

1. Supervision of the sanitation of vessels and health of crews engaged in foreign commerce.
2. Sanitary and medical inspection of arriving aliens, i. e., exotic recruits in industry.
3. Supervision of the sanitation of vessels and trains and health of crews engaged in interstate commerce.
4. Inspections of Government workshops, examination of Government employees on request, and administration of preventive inoculations to such employees.
5. Collection of data in relation to the occurrence of occupational diseases and the causes giving rise to their continuance.

¹ Summary of paper read at the forty-fourth annual meeting of the American Public Health Association, section on industrial hygiene, Cincinnati, Ohio, Oct. 24-27, 1916. A brief account of the meeting of this section is given in the MONTHLY REVIEW for December, 1916, pp. 729-731.

6. Investigations of diseases generally in relation to industrial environment.
7. Investigations of industries with a view to devising minimum standards of sanitary requirement.

Under existing sanitary law it is suggested the following activities may be continued:

(1) Furnishing first-aid instruction and appliances for the use of American seamen engaged in foreign and interstate commerce; (2) inspection and disinfection of living quarters of crews in which cases of tuberculosis have occurred; (3) physical examinations of seamen to determine their fitness for duty; (4) examinations of recruits for life-saving, lighthouse, and revenue cutter duty; (5) furnishing medical and sanitary care to seamen, lighthouse keepers, and life-saving crews; (6) examinations of arriving aliens to determine their physical and mental fitness to engage in industry, and recording data that will throw light on the question of physical standards in relation to different classes of employment; (7) prescribing measures for the sanitation of trains and premises of common carriers engaged in interstate traffic and inspections of such trains and premises; (8) inspections of Government buildings and workshops; (9) physical examination of Government employees on request; (10) vaccination of Government employees against smallpox and typhoid fever; (11) inspections of biologic establishments; (12) inspections of match factories using white or yellow phosphorus; (13) investigation of problems of industries in relation to health; (14) dissemination of information bearing on industrial hygiene; (15) advising other governmental agencies in respect to hygienic standards for use in industries; (16) suggesting methods by which workers may become more healthy and efficient, and thus overcome labor shortage.

It can not be denied that large numbers of workmen have not had the opportunity of enjoying even in reasonable degree healthful living and working conditions. This has not only encouraged inefficiency and labor shortage, but caused disease and threatened the public welfare. In consequence, it is to the interest of the employee, the employer and the public to correct these conditions. A common ground has been found upon which all may meet in mutual agreement. By means of investigations and wise councils, in respect to industrial hygiene, the Public Health Service may contribute toward this better understanding and thus indirectly improve labor conditions generally—this depending of course on the spirit of impartiality displayed in approaching these vital problems.

SCIENTIFIC MANAGEMENT—ITS RELATIONS TO LABOR WELFARE AND WHY LABOR OPPOSES IT.

In an article on "Scientific management and labor welfare," which appeared in the *Journal of Political Economy* for November, 1916,¹ Prof. Robert F. Hoxie examines briefly the nature and use and effect of time and motion study which he states "must be regarded as the chief cornerstone of scientific management, its main distinguishing feature, and the point of departure for any understanding and judgment of its claims, especially with reference to its scientific character and labor welfare." Labor, he says, looks upon time and motion study as "employed only or mainly for the purpose of task setting, and it is assumed to be used to set the minimum time or the maximum task to which the laborers can be forced." On the other

¹ Scientific management and labor welfare, by Robert F. Hoxie. *The Journal of Political Economy* November, 1916, pp. 833-854. The University of Chicago Press, Chicago, 1916.

hand, judged by the standard set by Mr. Taylor and others of the scientific management group, time and motion study "is not designed to discover and set the minimum time or the maximum task, but the scientific time or task, i. e., the reasonable or just task, considering the technical conditions, the character and training of the workmen, the element of fatigue, etc." Furthermore, time and motion study "must be conceived as little less than a universal method of attempted accurate industrial analysis, usable, with or without the stop watch, to discover, at almost every step of the productive and distributive process, not only the most effective material, organic, and human arrangements, adaptations, and combinations, but the reasonable demands which can be made upon the intelligence and energy of the management as well as the men, and the just apportionment of the product to all the factors and individuals concerned."

It will endeavor to discover by repeated analysis and experimental timing the best character, combination, and arrangement of tools, materials, machinery, and workmen, the most efficient and convenient lighting, heating, and seating arrangements for the workmen, the proper period for continuous operation by them, considering the element of fatigue, the rest periods needed, their most efficient character, combination, and sequence of motions, etc. * * * Many men will be timed with the idea of discovering, not the fastest speed of the fastest man, but the normal speed which the group can continuously maintain.

The author considers the possible and actual effects upon labor of this broader view of scientific management and attempts to answer the question whether scientific management has, after all, accomplished, through time and motion study, the claims made for it by Mr. Taylor and others. With respect to the mechanical or material elements which enter into the industrial process, the claims of scientific management seem, in his opinion, to be fairly justified, but with respect to the human element its claims "do not seem capable of practical realization," since it does not appear possible for time and motion study to yield "objective results uninfluenced or uninfluencable by human will and judgment." A consideration of the factors that may vary, subject to human will, and that affect the results of time and motion study used for task setting, leads to the conclusion that scientific management "is not and apparently can not be scientific in task setting," nor can it be "scientific in the matter of rate making, the distribution of the product, or in fact, in any of its dealings with the human element."

Scientific management, as it actually exists is, in spirit and results, undemocratic in so far as we associate industrial democracy with labor organization and collective bargaining. * * * Scientific management, in its essential nature and unsupplemented, seems to be a force tending to reduce the great body of workers to a little skilled, practically interchangeable and unorganized mass, with all this implies with respect to possible insecurity and discontinuity of employment, wage leveling, and the mental and moral quality of the workers.

On the other hand, scientific management has in it "possibilities of enormous increase of productive efficiency" and of "substantial benefits to labor," for, if properly guarded and guided, "this method may be used very effectively without entailing any evil results to the workers in the way of overspeeding and exhaustion." While the opinion is expressed that scientific management is fostering the specialization of workers and narrowing the task itself, that it is breaking down existing standards and uniformities set up by the workmen and preventing the establishment of stable conditions of work and pay, and that it tends to add to the strength of capitalism, it is admitted that it "is making the relatively unskilled more efficient than ever before and that they are generally receiving under it greater earnings than ever before."

The author does not believe in repressive measures for "we surely can not afford to give up the vast possibilities of increased productivity which scientific management holds out," but advocates a policy of supplementation.

It seems that what we really need, as a supplement to scientific management—so that we may avail ourselves of its beneficial possibilities and eliminate or minimize its possible evil effects—is an adequate system of industrial education, socially launched and socially controlled—an integral part of our public school system. With such a system in vogue, we might hope, I believe, that what the workers lose intellectually and morally in the shop, under modern specialized workmanship, they would gain in the school, and that through this moral and intellectual gain they might become universally organizable and organized, and might develop policies and methods which, while not interfering with productive efficiency, would secure for them as a class improved conditions and a reasonable share in the increased social dividend which the development and spread of scientific management promises.

LABOR VERSUS SCIENTIFIC MANAGEMENT.

Some of the fundamental reasons why organized labor appears to stand in definite and uncompromising opposition to scientific management are brought together by Prof. Hoxie in an article published in the *Quarterly Journal of Economics* for November, 1916.¹

Scientific management, say the union representatives, is a device employed for the purpose of increasing production and profits, which concerns itself almost wholly with the problem of production, disregarding in general the vital problem of distribution.

* * * It is unscientific and unfair in the setting of the task and in the fixing of wage rates; in the spirit and essence it is a cunningly devised speeding-up and sweating system; it intensifies the modern tendency toward specialization of the work and the task; it condemns the worker to a monotonous routine and tends to deprive him of thought, initiative, and joy in his work, and to destroy his individuality and inventive genius; it lessens the continuity of employment, and leads to overproduction and unemployment; it is incompatible with, and destructive of, collective bargaining and trade-unionism.

¹ Why organized labor opposes scientific management, by Robert F. Hoxie, *Quarterly Journal of Economics*, November, 1916, pp. 62-85, Harvard University Press, Cambridge, Mass., 1916. These reasons are analyzed in detail in Prof. Hoxie's volume on *Scientific Management and Labor*, a review of which appeared in the *MONTHLY REVIEW* for January, 1916, pp. 28-38.

Prof. Hoxie undertook to find out the basic or ultimate reasons for this belief, and states that the opposition is ascribable—

(1) To general ignorance on the part of the union workers of the true nature, methods, and results of scientific management. (2) To general and fundamental distrust, which the workers have acquired from bitter experience of anything new or different in industrial organization and methods. (3) To a propaganda of opposition among the rank and file of union men conducted by the leaders, who fear that if a better understanding is allowed to grow up between the real workers and the employers, their prestige and emoluments will be decreased, and even perhaps their positions abolished and they be reduced again to the ranks. (4) To the crudities of scientific management, still in its beginnings, and to the many abuses of it in practice by charlatans and by ignorant and unscrupulous employers, who trade upon the name without understanding the intricate and delicate nature of the thing, the time and patience necessary for its development, or who deliberately violate its spirit and methods for labor-driving purposes. (5) To present dominant ideals of trade-unionism which are incompatible with those of scientific management as conceived by Mr. Taylor.

The author concludes that union opposition has not been abated by an increased knowledge; that "general and almost instinctive distrust of the new, strange, and different has played a part in rousing union opposition"; that a propaganda has been carried on against scientific management by labor leaders, but that this does not account for the opposition of the rank and file of unionism who are quick to distrust their leaders when they endeavor to enforce changes fundamentally opposed to their standards and beliefs; that the crudities of scientific management in practice and its abuses by unscrupulous employers furnish a valid reason for opposing it; and that the "growing opposition of unionism to scientific management does rest finally upon a fundamental opposition of ideals essentially characteristic of the two things."

The author defends unionism against Mr. Taylor's position that it is organized for war and is committed to limitation of output while scientific management is organized for peace and harmonious action between employers and workmen and demands an ever-increased efficiency. He states that the workers have learned by experience that employers could and would make use of improvements and increased output, not only to seize all of the gains, but even to reduce the actual rates and returns to the workers; and that without improvements in methods on the part of employers, workers have been induced to speed up, the accomplishment of the strongest and the swiftest being the goal set up for all, the result being not a corresponding increase of pay, but less wages for all, or more work for the same pay. To prevent this situation from arising, the practice of placing a limit on individual output was developed.

Notwithstanding his defense of unionism against the kind of incompatibility suggested by Mr. Taylor, the author admits that "there is an essential incompatibility between the basic ideals of scientific management and those of the dominant type of trade-unionism"

which is still more fundamental, namely, "scientific management can function successfully only on the basis of constant and indefinite change of industrial conditions" while "trade-unionism of the dominant type can function successfully only through the maintenance of a fixed industrial situation and conditions."

Time and motion study in its broader conception appears to be a method of analysis applied to almost every feature of the productive concern and process. * * * The scientific management based upon it is a perpetual attempt to put into operation the new and constantly developing arrangements continuously revealed by it to be more efficient.

On the other hand the essential policies, demands, and methods of unionism seem to center about one great principle—the principle of uniformity.

The principle of uniformity, fully developed and applied, requires that all men doing the same work should be supplied with the same tools and conveniences, work normally the same length of time and at the same maximum speed, turn out the same maximum quantity and quality of goods, and receive the same rate of wages. It is in the interest of this principle of uniformity that the unionists demand the establishment of a standard rate of wages as a fixed minimum, a normal day or week as a maximum, a standard rate of work or a standard day's or week's work, which in connection with a standard rate of wages tends to make this standard rate a practical maximum.

Instinctively * * * the dominant type of unionism fights against change and against time and motion study, the mother of change.

Specialize the old-line craftsman, destroy his craft, and however high your ideals and kindly your motives, you are destroying the foundations upon which the dominant type of unionism is reared. Every union leader feels this instinctively, everyone who has come into contact with scientific management and who has an understanding of unionism knows that this is what it is doing. Here, I believe, we have the final answer to the question: "Why organized labor opposes scientific management." Scientific management, properly applied, normally functioning, should it become universal, would spell the doom of effective unionism as it exists to-day.

SAFE LIMIT OF CARBON DIOXIDE IN THE WORKING ATMOSPHERE.¹

G. O. Higley, professor of chemistry, Ohio Wesleyan University, in his paper on "Safe limit of carbon dioxide in the working atmosphere," read before the American Public Health Association in October, 1916, reviewed the experiments conducted by early hygienists, who regarded the discomfort and ill health resulting from rebreathed air as due to chemical causes, viz, deficient oxygen and excessive carbon dioxide; and of later investigators, who introduced the theory that physical factors, temperature, and humidity might be of greater importance than the chemical factors in determining the quality of the air—a theory confirmed by subsequent research and experiments. Reference was made to the investigation of the Chicago commission on

¹ Summary of paper read at the forty-fourth annual meeting of the American Public Health Association, section on industrial hygiene, Cincinnati, Ohio, Oct. 24-27, 1916. A brief account of the meeting of this section is given in the MONTHLY REVIEW for December, 1916, pp. 729-731.

ventilation which, after careful studies of picture theaters, school-rooms, and other buildings, concluded that (1) carbon dioxide as encountered in working practice is not the harmful agent of major importance in expired air or air otherwise contaminated; (2) that in those processes of manufacture where considerable carbon dioxide is liberated, the carbon dioxide content is not a proper index of air pollution; (3) that in street cars, elevated cars, etc., the carbon dioxide content of the air should not rise above 0.12 per cent; (4) that a temperature of 68° F. with a proper relative humidity is the best maximum temperature for living rooms artificially heated; (5) that from the standpoint of health, relative humidity is one of the important factors in ventilation; (6) that efficient air-cleaning devices are desirable in all ventilating installations where the air supply is liable to be contaminated by dust or other objectionable matter; (7) that the bacterial content of the air is an important factor in all ventilation, and bears a direct relation to the source and quantity of air supply; (8) that the temperature of a schoolroom should be kept as low as the comfort of the occupants will permit, and that the temperature may be maintained lower with comfort by increasing the relative humidity.

The paper also presented the results of the investigation of the New York State Commission on Ventilation which confirmed the theory in regard to the importance of the physical factors of temperature, humidity of air, and air movement; and which stated that parallel experiments conducted for the purpose of comparing the effect on their subjects of pure air with that of air containing from 0.1 to 1.3 per cent of carbon dioxide, temperature and humidity being the same throughout, showed (1) that the subjects seemed about equally comfortable in pure air and in stagnant air; (2) that body temperature, heart rate, increase of heart rate on standing, blood pressure, Crampton value, and respiration of the subject, were practically the same in pure and in stagnant air; (3) that the chemical condition of the air had no perceptible influence on the amount and accuracy of mental and physical work; (4) that the quantity of food eaten by a subject was slightly less in stagnant than in pure air.

According to Prof. Higley, the conclusions of investigators seem to be that (1) one may breathe for several hours air containing 20 times the usual permissible per cent of carbon dioxide without perceptible deleterious influence upon his health; (2) that stagnant air containing 2 to 15 times the generally accepted amount of carbon dioxide may be respired seven hours per day for five or more weeks with no perceptible effect upon heart rate, on increase of heart rate on standing, on blood pressure, Crampton value, or respiration of the subject; (3) that all the deleterious effects that were formerly attributed to respiring carbon dioxide present in stagnant air may be produced by

breathing for the same period air that is practically free from carbon dioxide but which has a temperature of say 90° F. and a very high relative humidity; (4) that a cold, dry air when heated to 80° F. or more without humidification may produce, when respired for some time, deleterious results.

The matter is well summed up by Prof. Lee when he says that "the problem of ventilation is physical rather than chemical, cutaneous rather than respiratory."

Prof. Higley concludes by asserting that in view of the fact that recent investigations have apparently shown carbon dioxide to be harmless when respired in much larger amounts than 0.08 per cent, the safe limit of this gas in the working atmosphere should be placed at 0.2 per cent.

STATE REGULATION OF EMPLOYMENT ON PUBLIC WORK.

BY LINDLEY D. CLARK.

An article in the October, 1916, number of the MONTHLY REVIEW (pp. 116-133) gave some account of the Federal laws governing the time of employment on public works. Many States of the Union have legislated on this subject, covering both the phase of direct employment by the State and that of the employment of labor by persons carrying out contracts made with the State. (Id. pp. 24, 25.) In practically every instance the period of service fixed by the law is eight hours, the exception being found in the case of Massachusetts, where nine hours is the maximum for cities and towns not electing to adopt the eight-hour day. Overtime is usually permitted only in cases of emergency.

The general principle on which this regulation of the contract of employment is based, where the State is a party, is that the State may establish the terms of its own agreements, to which the other party to the contract must conform if it wishes to enter into contractual relations with the State.¹

Where cities, counties, towns, and other municipal subdivisions are affected, it is said that these are but auxiliaries of the State for purposes of local government, and exercise their powers under grants from the State, subject to restriction or enlargement, as the legislature may from time to time see fit to act.¹ The cases cited support both points, the Atkins case being one in which the Supreme Court affirmed a decision of the Supreme Court of Kansas, upholding the validity of a law of that State limiting to eight per day the hours of labor of persons employed by or on behalf of the State or any county, city, township or other municipality of the State. The appellant Atkin had a contract for the paving of a street in Kansas City, Kans.,

¹ *Atkin v. Kansas* (1903), 191 U. S., 207; 24 Sup. Ct., 124; *Keefe v. People* (1906), 37 Colo., 317; 87 Pac., 791; *Byars v. State* (1909), 2 Okla. Cr., 481, 102 Pac., 804

and was convicted of employing a laborer to work more than eight hours per day, there being at the time no extraordinary emergency or necessity for protecting property or life. In its opinion the court said:

We can imagine no possible ground to dispute the power of the State to declare that no one undertaking to work for it or for one of its municipal agencies, should permit or require an employee on such work to labor in excess of eight hours each day. * * * It belongs to the State * * * to prescribe the conditions upon which it will permit public work to be done on its behalf, or on behalf of its municipalities.

The Keefe case involved public improvements in the city of Denver, a Colorado statute limiting public work to eight hours per day. The supreme court of the State held the law to apply, over the contention that the city was organized under a special law and was therefore exempt from the general rule laid down in the Atkin case. The Byars case is identical in principle, and cites the same authority, holding the Oklahoma statute (phrased also in the language of the State constitution), valid in its application to street-paving work.

A case involving the constitutionality of a law applying only to the city of Baltimore was decided on the same authority, the Court of Appeals of Maryland also holding that the fact that the law applies to contractors with the city of Baltimore and not to those with any other city of the State does not render it unconstitutional.¹

Still broader than the foregoing, if possible, is the decision of the Massachusetts Supreme Court on this subject. Under a practice frequently made use of in that State the senate submitted to the court questions as to the power of the legislature to enact a law limiting the hours of service of persons employed by the State and of persons employed by such municipalities as have accepted the provisions of certain acts. There was therefore no concrete case before the court, but only a question as to the principle involved. The court was clear in its ruling as to the power of the State to prescribe such terms of employment as it as proprietor might wish to impose as a condition of employment. As to municipalities, no reference was made to any voluntary acceptance of the law by them, the court saying that "the legislature is supreme in the control of these instrumentalities of government, subject only to the provisions of the constitution."²

Three of the Supreme Court justices dissented from the decision in the Atkin case, but no opinion setting forth the grounds of the dissent was written. It seems probable, however, that the dissent, in so far as it relates to the question of employment by or on behalf of municipalities, would rest on the grounds set forth in decisions of

¹ *Sweeten v. State* (1914), 122 Md., 634, 90 Atl., 180; *Elkan v. State* (1914), 122 Md., 637, 90 Atl., 183; judgment affirmed (1915), 239 U. S., 634, Sup. Ct., 221.

² In re Opinion of Justices (1911), 208 Mass., 619; 94 N. E., 1044.

some of the courts,¹ which had already held similar laws (specification in contract in the Fiske case) unconstitutional. The position taken in the first two cases cited is that the city is an independent corporation, possessing the same powers to contract as private corporations generally, in so far as its property rights and those whom it represents—i. e., its citizens—are concerned, and that such an interference with its right to contract violates the constitutional provisions which guarantee liberty, equality, and the right of property, while in the Fiske case the specification was said to infringe unconstitutionally on the right of the contractor to employ labor on such terms as might be agreed upon with his workmen, and a law of similar intent would be invalid.

The Ohio and Illinois decisions antedated the decision in the *Atkin* case, while that of the New York court was later. In the latter instance a distinction was declared to exist between the *Atkin* and the *Grout* cases on the ground that the *Atkin* case decided only that the law of Kansas in no way offended the Federal Constitution and had no bearing on the question of the status of a municipality under the constitution of a State, and the New York law was declared void on the strength of the precedent laid down in the case *People ex rel. Rodgers v. Coler* (p. 461). The State constitution was subsequently amended to authorize legislative regulation of public employment, and a new law was then enacted which has been declared constitutional.² In so ruling the court pointed out that the people had spoken in amending the constitution and further supported the enactment by reference to the decision in the *Atkin* case, which was, in this instance, said to be "directly analogous." In Ohio, also, a new law has been enacted³ of similar effect to the one declared unconstitutional 10 years earlier.

A similar sequence of events took place in the State of Washington, where an ordinance establishing an eight-hour day in the city of Seattle was declared unconstitutional⁴ by the supreme court of that State, as interfering with the constitutional right of persons to contract as to their employment. In a later case, however,⁵ an ordinance of the city of Spokane, similar in purpose to that of Seattle, noted above, was declared constitutional on the authority of the decision of the United States Supreme Court in the *Atkin* case.

It is of interest to note that at the time of both the above decisions (*Seattle v. Smyth* and *In re Broad*) the State had a law limiting to eight hours the daily period of work done for it or its municipalities,

¹ *People v. Grout* (1904), 179 N. Y., 417; 72 N. E., 464; *Cleveland v. Clement Bros.* (1902), 67 Ohio St., 197; 65 N. E., 885; *Fiske v. People* (1900), 188 Ill., 206; 58 N. E., 985.

² *People v. Metz* (1908), 193 N. Y., 148; 85 N. E., 1070.

³ Acts of 1913, p. 854.

⁴ *Seattle v. Smyth* (1900), 22 Wash., 327; 60 Pac., 1120.

⁵ *In re Broad* (1904), 36 Wash., 449; 78 Pac., 1004.

but in neither case did the court refer to it as controlling, in passing upon the validity of a city ordinance of similar effect. In Kansas, on the other hand, a city undertook to require 10 hours of labor on its streets for two days per year from all citizens of a certain age. The contention was set up that this was in violation of the State eight-hour law, and this contention was upheld by the State supreme court.¹

It seems hardly too much to say, in spite of the distinction drawn by the New York court in the Grout case, that the principle of the State's control over employment by or for itself or its municipalities is finally established in so far as the hours of labor are concerned. Thus, in a very recent case before the Wisconsin Supreme Court,² in which a city ordinance fixing the eight-hour day for work on public contracts was held not to violate a clause in the city charter requiring such contracts to be let to the lowest bidder, the court pointed out that a State law applying to public works of the State only, had been in force since 1909 without its validity having ever been challenged.

However, no conclusion can be drawn from this fact as to the subject of the regulation of private enterprise, the Massachusetts Supreme Court saying³ that it would hold the enactment under consideration to be valid, "not because we think that such regulations in regard to the hours of labor for men in common employment would be wise or constitutional, but because it is in the power of the proprietor of a business [the State in the present instance] to prescribe the methods under which it shall be conducted." In the Atkin case, also, it was specifically stated that there was no question involved as to private employment or the power of the State to regulate work in which the public has no concern, "which we have no occasion now to determine or even to consider."

A few decisions are at hand determining the scope of the class of laws in question. Thus under the Kansas statute it is held that a school district is a municipality,⁴ but that a law applying to "laborers, workmen, mechanics, and other persons," does not cover officers and employees on annual salaries specifically named and appropriated by the legislature.⁵ This exclusion does not apply to such regular employees as engineers and firemen in a municipal water and electric plant, 12-hour shifts for such employees being a violation of the statute; and this is true even though the time of actual labor (as of a fireman where natural gas is used) is but four or five hours in the aggregate, constant attendance being required.⁶

¹ *In re Ashby* (1898), 60 Kans., 101; 55 Pac., 336.

² *Milwaukee v. Raulf* (1916), 159 N. W., 819.

³ *In re Opinion of Justices*, *supra*.

⁴ *State v. Wilson* (1902), 65 Kans., 237; 69 Pac., 172.

⁵ *State v. Martindale* (1891), 47 Kans., 147; 27 Pac., 852.

⁶ *State v. Ottawa* (1911), 84 Kans., 100; 113 Pac., 391.

The Supreme Court of Oregon held the law of that State not to apply to policemen and members of the city fire department employed by the city of Portland, the ground being taken that such persons are not laborers within the meaning of the act, but are rather officers, being under civil-service rules, and having taken an oath faithfully to perform the duties devolving upon them.¹ Another reason adduced for the nonapplicability of the law is not in harmony with the view expressed in the Ottawa case above, and that is that firemen "are not subjected to active toil 8 hours in any 24, except in cases of emergency," which the statute specifically permits. The same court held the law to apply to a farm hand and a stationary engineer employed on a State asylum farm.²

What is meant by eight hours' work was considered in a case before the Supreme Court of Washington,³ in which the claim was made that the law contemplated eight hours "on the job," so that teamsters might be required to report an hour earlier for the purpose of greasing their wagons, harnessing and hitching their horses, collecting tools, etc. This the court denied as attempting "a palpable evasion of the law," holding that eight hours was the full measure of the time of labor of whatever sort that the employees were to render under the law.

As already pointed out, the laws in question usually all overtime work where there is an emergency warranting it, some laws also providing that extra pay shall be given for such work. Where there is overtime work in the absence of an emergency, the question arises as to the right of the employee for compensation therefor, and so far as the cases at hand indicate, it has been unanimously answered in the negative. Thus the Court of Appeals of Kansas said⁴ that one whose employment is covered by the act can not voluntarily work in excess of eight hours and then recover added pay therefor, the act being a penal offense, exposing both himself and the commissioners who permitted it to punishment. In a somewhat later case⁵ the supreme court of the same State disallowed a claim for extra pay for overtime where a man had received pay on a monthly basis, and had accepted the pay as a settlement in full to date. Such action was said to be a waiver of any claim for excess services, though "if he had not claimed and received pay on the theory of its being full compensation, or if he had not claimed at all until the close of his period of service, the question he now seeks to raise might have been properly in the case, and, for aught we know, he could have successfully invoked the

¹ *Albee v. Weinberger* (1914), 69 Oreg., 331; 138 Pac., 859.

² *Ex parte Steiner* (1913), 63 Oreg., 218, 137 Pac., 204.

³ *Davies v. Seattle* (1912), 67 Wash., 532; 121 Pac., 987.

⁴ *Billingsley v. Board of Commissioners* (1897), 5 Kans. App., 435; 49 Pac., 329.

⁵ *Beard v. Board of Commissioners* (1901), 63 Kans., 348; 65 Pac., 638.

provisions of the eight-hour law." The supreme court of Oklahoma, however, declared that the provision for overtime pay was limited to conditions of extraordinary emergency, so that one rendering overtime service where no emergency exists is not in a position to collect extra pay therefor.¹ And where the law is merely declaratory and not mandatory, and permits overtime work for extra compensation, as in the early New York law, (Acts of 1870, ch. 385), it is evident that one accepting payment throughout a considerable period is without claim for excess sums.²

Coupled with the idea of the regulation of the hours of labor there is found in some States that of the fixing of the amount of wages to be paid employees on public works. This may be done by declaring the minimum amount of such wages, or the law may provide that current or prevailing rates in the same lines of employment shall be paid. No case has come to the Supreme Court of the United States involving the exact question, though it would appear that the position taken in the *Atkin* case as to the power of the State to prescribe the terms on which it would transact business would involve the power to fix rates of wages no less than to fix the hours of labor. Such is the view taken by the Supreme Court of Washington,³ which upheld a city ordinance which established a rate of \$3 for an 8-hour day for a class of work on which the current rates were from \$1.82 to \$2.25 for a 10-hour day. The court relied on the doctrine of the *Atkin* case as to the power of the proprietor to fix terms of contracts affecting his interests; it further held that the fact that the payment was to be provided for by means of a special assessment did not give the citizens a right to object to the validity of the statute.

That this view is not of universal acceptance appears from a somewhat later decision of the Supreme Court of Nebraska⁴ in which a statute fixing \$2 as the minimum daily wage for labor on public works in cities of a certain class was declared unconstitutional. The court said "there should be no fixed rate of wages provided by the legislature without reference to the going wages for that kind of work at the time and place where it is to be performed." It was also said that the law violated the requirement that contracts should be let to the lowest responsible bidder, and would take the property of taxpayers without due process of law. In a considerably earlier case also,⁵ the Supreme Court of Pennsylvania held invalid an ordinance of the city of Reading fixing \$1.50 as the minimum daily wage to be paid by contractors with the city. A law of Indiana prescribing a fixed minimum wage for employment on public works of

¹ *Robinson v. City of Perry* (1913), 35 Okla., 475; 130 Pac., 276.

² *McCarthy v. Mayor, etc., of New York* (1884), 96 N. Y., 1.

³ *Malette v. Spokane* (1913), 77 Wash., 205; 137 Pac., 496.

⁴ *Wright v. Hoctor* (1914) 95 Nebr., 342; 145 N. W., 704.

⁵ *Frame v. Felix* (1895), 167 Pa., 47; 31 Atl., 375.

the State and its municipalities was likewise held unconstitutional¹ as interfering with the freedom of corporations in their right to contract freely in matters affecting their own interests. It was further said that the restriction of the law to "unskilled" labor was an invalid classification.

This decision was rendered before that in the *Atkin* case, and the court cited as sustaining its views the decision in the case *City of Cleveland v. Clement Bros.*, *supra*, and a decision of the New York court of appeals on the law of that State directing the payment of current rates of wages on contracts with the State or its municipalities. This law was declared unconstitutional² on the grounds of its invading the right of the city and the contractor to agree with their employees as to the measure of their compensation and requiring the expenditure of city funds for other than city purposes, and because it interfered with the powers of the city under the constitution of the State. It is apparent that the reasons here recited have not appealed to other courts, including the Supreme Court. As stated in connection with the discussion of the regulation of hours, the people of New York adopted an amendment to the State constitution authorizing the regulation of hours and wage rates, and an act to this effect was subsequently held constitutional in its various parts,³ though the matter under immediate consideration was one of hours rather than of wage rates.

Decisions falling between the foregoing in their views are one denying the validity of a law fixing a minimum rate in its application to employees of contractors, but sustaining it in so far as it related to direct employees of the State under a superintendent of one of its undertakings,⁴ and a decision modifying the opinion in the *Rodgers* case cited above, and holding that the law in question might bind the city, the question of contractors not being involved.⁵

No question now remains in the State of New York as to the validity of regulations affecting both hours and rates and extending to contractors as well as to the State and its subdivisions. The law can not be construed, however, as having any extraterritorial effect, so that work done for a contractor in another State, as the dressing of stone to be used on the undertaking, may be paid for on the basis of an agreement made independent of current rates in the city of New York, where the material is ultimately to be made use of.⁶

The matter of recovering for the difference between current rates and the rates accepted by an employee in settlement rests on much

¹ *Street v. Varney Electrical Supply Co.* (1903), 160 Ind., 338; 66 N. E., 895.

² *People ex rel. Rodgers v. Coler* (1901), 166 N. Y., 1; 59 N. E., 716.

³ *People v. Metz*, *supra*.

⁴ *Clark v. State* (1894), 142 N. Y., 101; 36 N. E., 817.

⁵ *Ryan v. City of New York* (1904), 177 N. Y., 271; 69 N. E., 599.

⁶ *Ewen v. Thompson-Starrett Co.* (1913), 208 N. Y., 245; 101 N. E., 894.

the same footing as that of recovery of pay for overtime work. In the single case at hand on this point ¹ a claim for \$600, which accrued during a period of some six years, was denied as having been waived by the acceptance of the wages proffered during that time.

Another respect in which the regulation of employment on public work has been undertaken is a requirement that only union labor should be employed thereon. Of similar intent is a provision that public printing shall bear a union label. Such provisions have appeared more frequently in city ordinances than in the acts of State legislatures, but it is not too much to say that wherever they have come to the notice of the courts they have been set aside as unconstitutional. The legislature of Nebraska enacted a law ² applicable to cities of the first class, which directed the employment of only union labor in work done by or for such cities. This was said by the supreme court of the State ³ to be undemocratic in principle, tending to create monopoly and restrict competition, and establishing an unwarranted discrimination against laborers not members of unions. And the Supreme Court of Illinois, in passing upon a rule adopted by the board of education of the city of Chicago to the effect that only union labor should be employed by contractors doing work for the board, said: ⁴

It is plain that the rule adopted by the board and included in this contract is a discrimination between different classes of citizens, and of such a nature as to restrict competition and increase the cost of work. It is unquestionable that if the legislature should enact a statute containing the same provision * * *, the provision would be absolutely null and void, as in conflict with the constitution of the State.

In view of this ruling it was inevitable that an ordinance of the city of Chicago directing the employment of none but union workmen on public works should be declared unconstitutional and void by the same court, stating the same reasons.⁵ The board of education of Detroit adopted a rule similar in purpose to that discussed in the case, *Adams v. Brennan*, above, and it was condemned by the Supreme Court of Michigan on like grounds.⁶ So also where a State furnishing board undertook to rescind a contract for supplies because the successful bidder was found to be an employer of nonunion labor, the supreme court held such action void as restricting competition and imposing an illegal condition.⁷ In this connection mention may be made of the ruling of the Civil Service Commission of the United States and an order of President Roosevelt as to the reinstatement of

¹ *Ryan v. City of New York*, supra.

² Ch. 17, Acts of 1903.

³ *Wright v. Hoctor*, supra.

⁴ *Adams v. Brennan* (1898), 177 Ill., 194; 52 N. E., 314.

⁵ *Fiske v. People* (1900), 188 Ill., 206; 58 N. E., 985.

⁶ *Lewis v. Board of Education* (1905), 139 Mich., 306; 102 N. W., 756.

⁷ *State v. Toole* (1901), 26 Mont., 22; 66 Pac., 496.

an employee who had been dismissed from the Government Printing Office because of his expulsion from a labor union, the fact of membership or nonmembership in a union being declared to be one that could not be taken into consideration in the employment or dismissal of persons in the Government service.¹

In all that was said by the courts in the matter of discrimination in employment on public works, it is clear that nothing is developed as to the right of the private employer to establish a rule or enter into an agreement on the subject. Such a provision would in no way offend the law, and would be allowed to have full force,² but where the public is concerned, the conclusion is unanimous that no such distinction can be enforced.

Three States³ have laws directing the use of the union label on printing done for the State or by the public printer of the State. No case is at hand which passes upon a law of this nature, but the Illinois supreme court declared an ordinance of the city of Alton containing such a provision to be not only in contravention of a State law requiring printing contracts to be let to the lowest responsible bidder, but also a violation of common rights and tending to create a monopoly.⁴ A similar conclusion was reached by the Supreme Court of Tennessee with regard to an ordinance of like form, the court saying that the provisions of the ordinance were discriminatory and contrary to public policy and the State constitution;⁵ and so also of the Supreme Court of Georgia in a like case.⁶

Another form of limitation on employment on public works that has been undertaken in several States is that of directing that a preference be given to resident laborers or to citizens of the United States, some laws going so far as to forbid entirely the employment of aliens thereon. This last restriction may be general, or it may be directed specifically to a race, as the Chinese. The constitutionality of a law prohibiting the employment of aliens generally has been decided by our highest tribunal in a case⁷ in which a statute of New York forbidding the employment of aliens on public work was declared constitutional. The court in this case rested on the principle announced in the case, *Atkin v. Kansas*, *supra*, that "it belongs to the State, as the guardian and trustee for its people, and having control of its affairs, to prescribe the conditions upon which it will permit public work to be done on its behalf, or on behalf of its municipalities," and it was further held that this power was not restricted by the treaty

¹ Twentieth Rept. U. S. C. S. Com., pp. 147-150.

² *State v. Toole*, *supra*.

³ Maryland, P. G. L., art. 78, sec. 9; Montana, R. C. 1907, secs. 254, 255; and Nevada, R. L. 1912, sec. 4309.

⁴ *Holden v. City of Alton* (1899), 179 Ill., 318; 53 N. E., 556.

⁵ *Marshall & Bruce Co. v. City of Nashville* (1903), 109 Tenn., 495; 71 S. W., 815.

⁶ *City of Atlanta v. Stein* (1900), 111 Ga., 789, 36 S. E., 932.

⁷ *Heim v. McCall* (1915), 239 U. S., 175; 36 Sup. Ct., 78; affirming 214 N. Y., 629; 108 N. E., 1095.

between this country and Italy, whose subjects were affected by the case in hand.¹

It is of interest to note that these decisions upholding the New York law succeeded a line of decisions apparently unbroken, adverse to the idea of such exclusions as this law proposed. Thus the Supreme Court of New York had held that the law of that State was not binding on contractors;² and an Oregon statute forbidding the employment of Chinese on public works was held unconstitutional by a Federal court.³ The Supreme Court of Pennsylvania also held that a law forbidding the employment of aliens on public works was no bar to a suit to recover wages earned by aliens, even though employed in contravention of the statute.⁴ On the other hand a recent decision of the Supreme Court of South Carolina upheld a local law directing the employment of county residents on highway construction, citing the rules laid down by the Supreme Court as to the right of a State to control its own resources and undertakings;⁵ so also of the law of Massachusetts directing a preference of citizens on public works, the supreme court of the State upholding the law on the authority of the Heim and Crane cases.⁶

The conclusion is inevitable, therefore, that laws of this nature will be henceforth accepted as valid, on the authority of the decision of the Supreme Court, as happened in the matter of fixing hours of labor, following the Atkin case. It may here be pointed out, as in the case of the decisions against the exclusion of nonunion labor, that the decisions sustaining laws excluding or restricting the public employment of aliens are not to be considered as supporting laws excluding or restricting their employment by private persons. Indeed, the contrary is true, such laws having been held unconstitutional by our highest tribunal.⁷

SUMMARY OF EXISTING LAWS.

Taking up now the specific provisions of the various State laws, it may first be noted that in two States the law fixing hours of labor is restricted to single cities or classes of cities, that of Maryland applying to the city of Baltimore only, while in Missouri the law applies only to cities of the second class. Elsewhere, it appears that, with the exception of Massachusetts, Minnesota, West Virginia, and Wisconsin, the same provisions apply to the State and its municipalities. In Massachusetts a fixed rule applies the nine-hour law to cities and towns

¹ See also *People v. Crane* (1915), 214 N. Y., 154; 108 N. E., 427, in which the same statute was upheld by the New York court of appeals. For economic reasons, however, the law was changed from a prohibition against such workmen to a requirement that preference be given to citizens when available.

² *People v. Warren* (1895), 13 Misc., 618; 34 N. Y. Supp., 942.

³ *Baker v. Portland* (1879), 5 Sawyer, 566; Fed. Cas. No. 777.

⁴ *Philadelphia v. McLinden* (1903), 205 Pa. S., 172; 54 Atl., 719.

⁵ *Lillard v. Melton* (1915), 87 S. E., 421.

⁶ *Lee v. City of Lynn* (1916), 111 N. E., 700.

⁷ *Yick Wo v. Hopkins* (1886), 118 U. S., 356; 6 Sup. Ct., 1064; *Truax v. Raich* (1915), 239 U. S., 33; 36 Sup. Ct., 7.

not voting to accept the eight-hour day provided by statute for the State and counties. A vote to accept the eight-hour day may be taken at any annual election, and must be taken on the petition of 100 voters in a city or 25 voters in a town, filed with the city or town clerk 30 or more days before the election. In Minnesota, West Virginia, and Wisconsin, the laws make no mention of municipalities, the Minnesota and West Virginia laws applying to employment by or on behalf of the State, and that of Wisconsin to work to which the State or an officer or agent thereof is a party.

Most of the laws fix eight hours as the maximum of employment, but that of Indiana is directory only and not mandatory in form, and permits overtime work by agreement, without regard to emergencies. The law of Pennsylvania makes mention of neither overtime nor emergency employment, and apparently falls in the same class with Indiana. The same is true of New Mexico also, where there is no act of the legislature, but a simple declaration of the constitution, that eight hours shall constitute a day's work, a form of expression that has been determined not to establish an actual limitation upon employment.¹ In a few other cases similar language is used in the section declaring the length of the working day, but other provisions indicate a purpose to make its observance obligatory. In Montana the prohibition of overtime work is apparently absolute, no exception being made for emergencies.

In the other States provision is made for "emergencies" or "extraordinary emergencies," a few laws not making use of these terms, but enumerating the occurrences that are to be construed as constituting causes for waiver, as "for the protection of property or human life." In Oregon and Washington, overtime work in emergencies is permitted only when other employees who have not already worked eight hours are not available.

As to the compensation when overtime work is performed, the laws vary considerably, some making no mention of payment for extra time worked. In Arizona, Idaho, Kansas, Maryland (city of Baltimore), New Jersey, Oklahoma, and Texas, the law provides that overtime shall be paid for on the basis of eight hours constituting a day's work; in Colorado, the excess over eight hours is to be counted on the subsequent day, while in Oregon double pay, and in Washington a 50 per cent increase, are to be allowed for overtime work.

The scope of the laws is variously limited, some designating classes of employees, and others using the kind of undertaking as the basis. In Alaska, Montana, Nevada, New Mexico, Utah, and Washington, the law applies to any work or undertaking by or on behalf of the Commonwealth or its subdivisions or municipalities; in Oregon it applies to "labor employed;" while in the other States classes of employees are designated, the most common enumeration being of

¹ *United States v. Martin* (1877), 94 U. S., 400.

laborers, workmen (or workingmen), and mechanics. This terminology is used in the laws of Arizona (including also other persons doing manual or mechanical labor), California, Colorado, Idaho (or other persons engaged in manual labor), Indiana, Kansas (or other persons; excepts cities of the second or third class owning or operating municipal light and water plants), Maryland, Massachusetts, New Jersey, New York, Oklahoma (including prison guards, janitors of public institutions, or other persons so employed), Pennsylvania, Porto Rico, Texas, West Virginia, Wisconsin, and Wyoming. The designation, "laborers and mechanics," is used in the District of Columbia, Kentucky, and Missouri; in Hawaii, the law embraces mechanics, laborers, clerks and other employees; in Minnesota, persons employed by or on behalf of the State in manual labor; and in Ohio, workmen engaged on any public work.

A further limitation of hours to 48 per week appears in the laws of Colorado, Massachusetts, Ohio, and Oregon; while in Hawaii the hours of labor are eight "on any working day, except on Saturday," when five hours constitute a day's work.

The regulation of wages is not attempted directly except in a very few cases, the more common provision being that current rates for the same class or classes of labor in the locality shall be paid persons employed within the scope of the act. Such a provision is found in the laws of Arizona, Idaho, Kansas, Maryland (for contractors; \$2 minimum where the employment is directly by the city), Massachusetts, New York, Oklahoma, and Texas. A \$2 minimum is fixed by the law of California, and \$3 for unskilled labor by that of Nevada.

In the matter of resident or citizen labor, only citizens or wards or persons who have declared their intentions to become citizens may be employed, according to the Arizona statute, though the appropriation act of 1915 simply directs a preference of citizens in employments provided for by the act. No Chinese or Mongolian may be employed on public works in California and Nevada; a like racial line is drawn by the law of Hawaii, where no one may be employed who is not a citizen or eligible to citizenship, though if these are not available, unskilled laborers of the prohibited classes may receive permits allowing their employment. The laws of Massachusetts and New York declare a preference for citizens of the United States, the former also giving first opportunity to citizens of the State. Only citizens or persons of declared intentions may be employed on public works in Pennsylvania, while a preference for the same classes of persons is expressed in the law of Utah; in Pennsylvania the workman must also have been a resident of the State for six months. In Maine, residents of the State are to be preferred for employment on public works; while according to a Louisiana statute only resident laborers may be employed on the water and drainage works of the city of New Orleans.

Following is a list of the laws discussed in the foregoing analysis:

- Alaska, Acts of 1913, ch. 7 (hours).
 Arizona, R. S. 1913, secs. 3103-3106 (hours, wages, and requirement of citizens; Acts of 1915, ch. 3 (preference of citizens).
 California, constitution, art. 19; Acts of 1915, ch. 666 (Chinese or Mongolian labor; act also establishes hours and wages); constitution, art. 20; Penal Code, sec. 653c (hours).
 Colorado, R. S. 1908, secs. 3921, 3922 (hours).
 District of Columbia, Acts of U. S. Congress 1912-13, ch. 106 (hours).
 Hawaii, R. L. 1915, secs. 160, 161 (hours and citizens).
 Idaho, constitution, art. 13, sec. 2 (hours); Acts of 1911, ch. 131, Am. 1913; ch. 165 (hours and wages).
 Indiana, Burns A. S. 1914, secs. 7977, 7978 (hours).
 Kansas, G. S. 1909, sec. 4643, Am., Acts of 1913, ch. 220 (hours and wages).
 Kentucky, Acts of 1910, ch. 123 (hours).
 Louisiana (New Orleans only), Acts of 1902, No. 111 (residents).
 Maine, Acts of 1909, ch. 228 (residents).
 Maryland (Baltimore City only), Acts of 1910, p. 642 (hours and wages).
 Massachusetts, Acts of 1909, ch. 514, secs. 21, 43; Acts of 1911, ch. 494; Acts of 1914, ch. 474; Acts of 1916, ch. 240 (hours, wages, and citizens).
 Minnesota, G. S. 1913, sec. 3832 (hours).
 Missouri (cities of second class only), Acts of 1913, p. 420, secs. 237-239 (hours).
 Montana, constitution, art. 18, sec. 4; R. C. 1907, sec. 1739 (hours).
 Nevada, R. L. 1912, sec. 3481 (wages); sec. 3483 (Chinese); sec. 6778 (hours).
 New Jersey, Acts of 1913, ch. 253 (hours).
 New Mexico, constitution, art. 20, sec. 19 (hours).
 New York, constitution, art. 12; compiled laws, ch. 31, sec. 3, Am. arts of 1913, ch. 494 (hours and wages); Acts of 1915, ch. 51 (citizens).
 Ohio, Acts of 1913, p. 854 (hours).
 Oklahoma, constitution, art. 23, sec. 1 (hours); R. L. 1910, sec. 3757 (hours and wages).
 Oregon, Acts of 1913, ch. 1 (hours).
 Pennsylvania, Acts of 1897, No. 379 (hours and citizens).
 Porto Rico, R. S. 1911, sec. 1657; Acts Extra Sess. 1913, No. 140 (hours).
 Texas, Acts of 1913, ch. 68 (hours and wages).
 Utah, constitution, art. 16, sec. 6; C. L. 1907, sec. 1336 (hours); Acts of 1909, ch. 80 (citizens).
 Washington, Codes and Statutes, 1910, secs. 6572-6577 (hours).
 West Virginia, Code, 1899, p. 1146 (hours).
 Wisconsin, Statutes, sec. 1729 m (hours).
 Wyoming, constitution, art. 19, sec. 1; Acts of 1913, ch. 90 (hours).

VOCATIONAL EDUCATION SURVEY OF MINNEAPOLIS, MINN.

The results of a vocational education survey of Minneapolis, conducted in 1915 by the National Society for the Promotion of Industrial Education, are brought together in Bulletin No. 199, of the United States Bureau of Labor Statistics. The aim of the survey was to get facts about the schools and vocations of the city in order to submit recommendations for a program of education by which young people might be trained in the schools to meet the

demands of the various commercial enterprises located in Minneapolis, with a minimum of economic loss to industry and a maximum of technical or vocational instruction to the individual. Therefore, most of the bulletin is devoted to a presentation of the results of this intensive study, showing for each industry in the city what vocational education is needed properly to equip boys and girls for work therein.

At the outset it is shown that the schools are not adequately meeting the need for this kind of training because they devote too little time to such instruction, their facilities are insufficient, and their courses of study are not based scientifically upon the demands of local industries, and so far as the high schools are concerned, do not fulfill the needs of that large percentage of students who do not remain four years. In the public evening classes, whose chief function should be to provide general and vocational education for wage earners, the greatest difficulty seems to be an inability to give instruction of a kind to meet the interests and requirements of the mixed group coming from a variety of occupations with a diversity of motives. Adequate instruction should be made possible by providing additional funds. Other agencies are suggested as meeting in a measure the need for vocational education. The general university extension division of the State university has been hampered by lack of funds; the Dunwoody Industrial Institute has made a commendable beginning, but has not definitely discovered the field in which it can be of most service to the youth of the city; the Y. M. C. A. evening industrial and commercial classes have proved of practical help; private commercial schools, denominational schools, and correspondence schools have each done much in preparing ambitious boys and girls for self-support. Very little reliance is placed upon apprenticeship as a means of training workers.

One of the outcomes of the survey was the establishment of trade understandings providing for cooperation between schools and the trades and industries, by which the former are undertaking to adapt their courses of study to meet the needs of industry and the latter have agreed to give preference in the selection of workers to those who have availed themselves of such instruction. Examples of such understandings are included. These trade understandings are recognized as a distinct contribution to the movement for vocational education, and schools and classes operated under them will be able to select and train a group of young people who, with their superior equipment, will become in time either all-around workmen or leaders in industrial life.

In recognition of the fact that for any comprehensive scheme of industrial education to be efficient and enduring it must command the respect and support of employers, employees, and their organi-

zations, the survey gave considerable attention to the question. As a result practically all the important employers in most of the trades and occupations approved the plans for all-day, part-time-dull-season, and evening classes, and agreed to cooperate with the schools in a definite way to make these classes successful.

One purpose of the survey in its study and recommendations was to appeal to the desire for higher efficiency on the part of workers and to encourage employers not only to adopt more systematic methods of selection and promotion of workers, but to show their willingness to reward efficiency—a policy which would result in more general attendance at vocational classes and on the whole be mutually profitable. Part time instruction is strongly recommended by the survey committee, but the difficulty of inducing employers voluntarily to release young people during working hours so that they may get further education is recognized.

One appendix gives outlines of courses of study worked out by the survey with the trades and approved by them, and another gives suggestions for a course of study for prevocational classes.

VOCATIONAL EDUCATION SURVEY OF INDIANAPOLIS, EVANSVILLE, AND JEFFERSON COUNTY, IND.

INDIANAPOLIS AND EVANSVILLE.

During 1916, under the direction of the Indiana State Board of Education, vocational education surveys were made of the cities of Indianapolis and Evansville, Ind., for the purpose of providing a program of vocational and prevocational instruction and training based on findings relating to industries and wage-earning employments, and of ascertaining to what extent, if any, the schools are meeting the vocational needs of the communities. In February, 1913, the Indiana State Legislature passed a vocational-education law, devised to stimulate vocational education by granting State aid to all communities which would organize and conduct vocational departments and schools offering instruction in elementary agriculture, domestic science, and industrial arts. To render this instruction effective and to provide for its development the State survey committee made the surveys indicated, its efforts being directed principally "to those industries in which it seemed probable that the development of the industry and the advancement of workers in the industry was prevented or made difficult by a lack of knowledge or of training on the part of the worker; and to those industries and occupations in which shop training and experience were necessarily under any conditions inadequate as means of developing complete efficiency." Data were secured relating to industrial organizations, equipment, and processes; ages of employees and of untrained beginners; wages; hours;

mental quality of workers; general and special knowledge required; method of selecting workers; sources of labor supply; special training of the workers if any other than that given by the foreman; system of promotion or economic reward for efficiency if any has been established; systematic technical instruction or practical training desirable after the worker has entered the industry; desirability of giving instruction in the industries established, or in part-time day courses, or in evening courses; school age, population and attendance; the issuance of work permits to boys and girls under 16 years of age; and (in Evansville only) the extent to which library facilities are utilized. The reports of these surveys are included in two volumes recently issued by the State board of education.¹

The study of the industries seemed to indicate a general demand for vocational education, and also that each industry would profit materially if its workers could have an opportunity to acquire technical training in part-time or evening classes. The opportunities for development were found to be exceptionally great, especially in the furniture and woodworking industry which is the largest single industry in Evansville, and in the automobile industry which ranks among the two or three leading industries of Indianapolis. One of the immediate results of the survey in Evansville was the development of interest among workers and employers in the proposal to institute vocational courses in the public schools, an interest which resulted in a provisional enrollment of 58 in day vocational courses, 113 in part-time day courses, 66 in evening classes for apprentices, and 108 in evening classes for journeymen. In Indianapolis this interest found expression in the signing of trade and educational agreements providing for the establishment of a two-year part-time instruction in salesmanship, a two-year day course in woodworking, a three-year compulsory evening continuation school for plumbers' apprentices, a two-year day course in sheet-metal working, and a one-year part-time course for girls who wish to become telephone operators. The last two were pending at the time the report was written. Seven Evansville firms expressed a willingness to sign trade and educational agreements providing for the establishment of part-time classes for the instruction of apprentices for a period of three to four years.

In Indianapolis 2,258 establishments employing 40,658 workers (30,483 males and 10,175 females) were covered, the industries represented being automobile manufacturing, machine and metal-product shops, foundries, sheet metal, furniture and woodworking, telephone, heat, light and power, street car service, building trades, retail stores, printing, garment industry, canning industry, and home makers.

¹ Indiana. State board of education. Charles H. Winslow, State director of vocational research. Education Bulletin No. 19, Report of the Evansville Survey for Vocational Education, 510 pp. Educational Bulletin No. 21, Report of the Indianapolis Survey for Vocational Education, 400 pp. Indianapolis, Jan. 1, 1917.

In Evansville 333 establishments were scheduled, employing 12,764 workers (8,392 males and 4,372 females), covering the following industries: Furniture and woodworking, building trades, cigar factories, dressmaking, flour mills, garment making, gas-engine manufacturing, hospital and nursing, laundries, machine shops and metal working, plow manufacturing, potteries, printing, railroad shop, retail stores, stove manufacturing, and vehicle manufacturing.

In its study of the schools of Indianapolis, the vocational education offered by them, and opportunities for developing these courses to meet the needs of industry, the committee found that 1,458 pupils were enrolled in part-time vocational classes in 19 elementary schools in 1915-16, instruction being given in cooking, millinery, sewing, and dressmaking; that in 1916, 1,632 were enrolled in evening vocational classes; that covering the period September 1 to November 1, 1916, 37,378 children were enrolled in the public schools, 13.2 per cent being in the high schools; that in a period of 40 months ending July 1, 1916, 9,400 work permits were issued; that the number of children enrolled falls off rapidly in grades 6, 7, 8, and 9, and at ages 14, 15, and 16; that 35.2 per cent of all children enrolled were retarded as respects age, while 67.6 per cent of permit workers were retarded; and that probably more than 20,000 young people between 14 and 21 years of age are entirely without instruction of any kind either in their employment or in the schools.

The findings as to schools and libraries in Evansville showed that in 1915-16 the public-school enrollment was 10,343, of which 9.4 per cent were in the high-school grades; that of 243 children working under permits, 207 or 85.2 per cent were retarded as respects age and grade at the time of leaving school; that between September 1, 1915, and April 15, 1916, 517 pupils withdrew from grades 4 to 12, 17.4 per cent of them to go to work; that of the 517, 287 or 55.5 per cent were retarded, indicating, as also in the case of permit workers, the need for the organization of prevocational and vocational classes offering instruction adapted to the capacities of the children; that the present amount of manual training in the public schools should be increased; that the present day and evening vocational classes should be developed and made more effective so that, as the records of the men's public school evening vocational courses show, 28.5 per cent of those who enroll would not drop out after attending five sessions or less; that nearly two-thirds of the borrowers at the libraries were under 16 years of age; and that of the total circulation of 472,561 books, 12,523 were books on useful arts, a circulation which the development of vocational education in the schools is expected to increase.

The report on the Evansville survey states that perhaps the most important finding of the survey—

is that the price paid for inefficiency by Evansville employers and wage earners individually, and by the community collectively is enormous, and that this large item of cost in economic service is a serious handicap to the community in its effort to improve, or even to maintain present standards of economic and social welfare. * * * Every dollar wisely spent now for vocational education and training will certainly yield back in the course of a few years the original investment together with a large dividend of profit to the community and to the State.

Other findings of the survey may be briefly stated as follows:

1. The 14 to 16 year old children are not wanted in industry and vocational training is not provided for them in the schools.
2. The law should be so changed as to provide that 16 years instead of 14 shall be the age limit of compulsory education, and that a type of education shall be developed in the schools specially devised to meet the requirements of children 14 to 16 years of age.
3. There appear to be violations of the school-attendance law and also the law providing for the issuing of work permits to children.
4. An assistant to the superintendent of schools should be appointed to be known as the director of vocational education.
5. The vocational department of the public schools should establish a museum of Evansville's industries and commerce.
6. A reorganization of the high school and grade courses, involving a breaking up of the old conventional four-year high-school course and the establishment of a junior high school embracing the seventh, eighth, and ninth grades should be made, thus providing an administrative unit for prevocational work which it is believed should begin with the seventh grade.
7. A scheme for vocational education should comprehend some systematic and continuous treatment of shop conditions in the community with a view to utilizing shop work and equipment for the training of beginners, apprentices, and journeymen. Ultimately, if not at the outset, an expert in shop practice should be appointed to the staff of the vocational department of the public schools.

Based on the findings as to industries and schools in Indianapolis, the committee found that this city, because it is young in industrial growth and has an inadequate supply of skilled mechanics, and because of the high cost of inefficiency, as was found in the Evansville survey, offers a promising field for vocational education. It is stated, however, that economic conditions are not encouraging, that labor turn over is very frequent, that adequate welfare work is lacking in its industries, that lack of skill and workmanship has prevented wages from rising with the living cost, and that the city is below the general level of the State in the value added to the product by manu-

facture. These conditions, declares the committee, emphasize the need for vocational education, and industries and commerce are turning to the schools for help.

Considerable space is given to suggestions in detail as to how the vocational and prevocational work should be organized, developed, and administered in Indianapolis, including recommendations regarding practical art instruction, manual training work, a discussion of the imminence of a rise in the age of compulsory school attendance from 14 to 16, and the new problems and responsibilities which that fact presents. This, it is suggested, will force back into the schools some 1,200 children between 14 and 16 who are now wage earners, and it becomes necessary to take care of them by providing vocational education and continuation school work. The enactment of a law requiring all employed children under 16 years of age to attend continuation classes is recommended, the courses offered to be flexible enough in work and instruction to meet the widely differing interests and demands of the juvenile workers, and thus improve their general or vocational preparation for life.

The committee believes that the best way in which to meet the demand for prevocational training, characterized as one of the most important problems in the development of a program of vocational education, in the industries and household, commercial, and agricultural arts, is through a junior high school for the education of pupils during the seventh, eighth, and ninth years, as recommended in the Evansville report. The senior high school should then be so organized as to receive graduates from the junior high school and advance them in the courses suggested, and also give instruction in college and normal preparatory courses. To meet the need of persons who are already engaged in productive callings, the committee recommends the establishment of evening classes of the trade-extension kind. Applicable to Evansville, instruction in market gardening, truck gardening, floriculture, and poultry keeping should be given in the junior high school for those who may desire to follow the occupation of farming. For Negroes, courses in auto driving, bricklaying, carpentry, concrete work, janitor and care taking, cooking, laundry work, and domestic service are recommended.

The Indianapolis report includes a program of courses for evening schools and part-time instruction, and also continuation school courses of study in salesmanship, vocational training of girls and women in household work is included as a part of the committee's recommendations. The features to be incorporated in trade agreements are given detailed attention. The report emphasizes the necessity of training teachers for vocational schools.

The committee shows that Evansville is financially able to carry out the program for vocational education outlined in the report, the

amount available annually being approximately \$179,000. In Indianapolis about \$306,578.35 would be available annually for this purpose.

JEFFERSON COUNTY, IND.¹

Departing from the larger cities, the survey committee in 1916 made a study of Jefferson County, of which Madison is the county seat, in order to show, by an analysis of its agricultural conditions, "the need with respect to agricultural development which must be satisfied in order to establish rural life on a satisfactory basis, both from the standpoint of the local community and from the standpoint of the State and the county at large," and "to determine the provisions already made for rural betterment in order to show how these must be reorganized and supplemented." This survey was organized along four main lines, covering—

1. The economic situation, setting forth important facts pertaining to the location, history and industries of the county, the character and extent of the land and other property with which the farmer has to work.

2. The status of husbandry in the county, or present agricultural conditions.

3. Financial resources of the county and agencies for rural betterment, i. e., the effort for rural betterment made by the people of the county through granges and other community organization.

4. The status and work of the public schools of the county.

The survey developed several important facts bearing upon the possibilities for vocational education, which may be summarized as follows:

1. It is apparent that the agricultural efficiency of the people is surprisingly low.

2. The population and school enumeration decreased during the period 1900 to 1910 approximately 10 per cent and 14 per cent, respectively.

3. The rural schools have accomplished little in the way of meeting the vocational needs of the young people. Of 4,832 pupils who enrolled during the last five-year period,² 2,178, or 45 per cent, withdrew before completing the elementary courses, and of this number 622, or 28.6 per cent, dropped out because the school failed to interest them or their parents.

4. Rural teachers are inadequately trained to teach agriculture and domestic science as required by law.

Perhaps the most important fact developed by the survey of Jefferson County was the need for better agriculture—an awakening of the

¹ Indiana. State Board of Education. Educational Bulletin No. 20. Report of the Jefferson County Survey for Vocational Education. Indianapolis, Jan. 1, 1917. 86 pp.

² Presumably 1911 to 1915, inclusive, since the survey was made in the spring and early summer of 1916.

farmers to a realization of the fact that they have good natural resources and that it is possible to make the county one of the best in the State, agriculturally. It was found that the soil is not handled intelligently; that animal industry is not well developed; that approximately one-fifth of the land is listed as timber or waste land; that about one-half is classed as rolling uplands splendidly adapted to horticulture; that business management of the farms is lacking so that the farmers do not know whether or not they are making money; that the farmers are not sufficiently organized. These facts prompted the survey committee to recommend first of all the imperative need for vocational education and rural betterment work adapted to the instruction of the youth of the county. Specifically, the committee suggests:

1. The organization of a county industrial society to assist the farmers in specialization.
2. The cooperation of all agencies devoted to social improvement and rural betterment work.
3. The formulation and development of a definite agricultural program for the county.
4. The need for developing and encouraging a definite manufacturing program for the county.
5. Highway improvement.
6. The employment of a county agent of agriculture.
7. Distribution of recreation centers throughout the county as being conducive to productive efficiency.

To develop vocational and prevocational work in the schools of Jefferson County the survey committee believes that three types of work must be provided for:

1. Prevocational work to be carried on in the regular schools, as prescribed by law, should be further developed and improved.
2. Vocational departments and courses should be organized to enable the young people to get vocational instruction in agriculture and household occupations.
3. Vocational instruction should be provided for young people and adults out of school by means of dull-season day courses of the continuation type, or evening vocational courses.

The solving of these problems may be assisted, according to the committee, by—

1. School consolidation.
2. Construction of school buildings adapted to vocational instruction.
3. Employment of teachers especially trained in agriculture and household arts, these teachers to be retained so long as they are efficient.

4. Special attention being given to home project and boys' and girls' club work.

5. Building up community life and interest.

6. Organizing certain high schools as vocational high schools with the employment of special vocational teachers and the adoption of a properly weighted course of study which the committee outlines.

7. The establishment of short-term day and evening vocational courses in agriculture and home making.

These recommendations, it is pointed out, may be put into effect in any township high school in the county "at a trifle if any more than the present cost," and will "give to the community the broad, thorough, truly vocational education described above, under highly efficient teachers, together with expert supervision of the prevocational work of the elementary schools, the expert direction of home project work through four summer months, and the continuation schools in agriculture and home economics for the adult during the winter months."

LABOR CONDITIONS IN THE STATE OF WASHINGTON.

The Tenth Biennial Report of the Bureau of Labor, Statistics, and Factory Inspection of the State of Washington for the years 1915 and 1916,¹ opens with a brief review of the two years' work, notes recommendations to the legislature, discusses the subject of vocational education, and gives an account of the activities of the bureau, including highway inspection; the enforcement of the eight-hour law on public works; the eight-hour law for women; the minimum wage law and the law governing employment of minors; the lumber industry; the fisheries, with special report on the salmon canning industry; the work of employment agencies; statistics of 1,111 varied industrial plants in the State; information concerning trades-unions; a table showing hours of labor and wages under organized labor; a budget of the annual cost of living of a family of five persons; reference to the shop safety campaign, including statistics of accidents; an account of a special survey of conditions surrounding motion-picture operators, cement plant workers and longshoremen; and labor strikes. An appended report of the assistant labor commissioner deals in a general way with child labor; the women's eight-hour law; and the minimum wage and its effects in Washington.

According to the report, the prevailing wage paid for highway work in 1916 was \$2.40 to \$2.50 per day for unskilled labor as against \$1.60 in 1915. Forty-five cases of violation of the eight-hour law are noted.

¹ Washington. Tenth Biennial Report of the Bureau of Labor, Statistics, and Factory Inspection, 1915-16. Olympia, 1916. 312 pp. Illustrated.

It appears that 37 complaints were filed of violations of the eight-hour law for women, 4 cases of violation of the minimum wage law, and 4 cases of violations of the law governing the employment of minors. These cases are all listed in detail. In most of them convictions were secured and fines imposed.

Washington ranks first in the production of lumber which is its chief industry. In 1915 the total production was 6,973,801,821 board feet, and for the period October, 1913, to July, 1915, the number employed in the saw, planing, and shingle mills, sash and door factories, cabinet and woodworking shops and kindred industries, was 20,183 males and 74 females. These figures do not include thousands engaged in the logging industry and ship building plants over which the bureau of labor has no jurisdiction.

Another important industry in Washington is salmon canning. In 40 canneries, according to the report, 1,872 white men, 1,028 Orientals and 182 Indians were employed in 1915, earning an average of \$366.23, \$316.72, and \$30 per annum, respectively. The total paid in wages in 1915 was \$1,638,547.06 and the value of the harvest was \$6,965,251. Employees in this industry are placed in three groups: (1) Those who work throughout the year and receive wages ranging from \$45 to \$125 per month in addition to board; (2) the contract laborers, almost exclusively Orientals, who receive \$40 to \$45 in addition to board, lodging, and transportation; and (3) extra laborers required during the busy season who receive at the rate of 25 to 30 cents per hour not including board. It is estimated that, taking the year round, from 12,000 to 18,000 people are employed in this industry.

Since the passage of the law declaring illegal all collections from persons seeking employment or from any person in his or her behalf by any individual or company, employment agencies which victimized people out of work seem to be passing out and in their place is coming the private agency, which receives its compensation from employers only, the Federal agency, and municipal agencies. In the latter two the service is free. In Tacoma during 1915, 4,908 persons secured employment, and the year 1916, based on a report for six months, shows approximately 100 per cent increase. The Seattle public agency in 1915 had orders for 25,772 positions and filled 23,541 at a total cost of \$4,452.03, or an average of 18.91 cents for each position secured.

The budget of annual cost of living for a family of five persons, based on prices secured in April, 1916, in 44 cities revealed an increase in 1916 over 1914 and 1915 and shows that the southwest section of the State is the cheapest section in which to live and the eastern portion as the most expensive. The averages given are for food and fuel only.

AVERAGE ANNUAL BUDGET FOR FOOD AND FUEL FOR A FAMILY OF 5 PERSONS IN SPECIFIED CITIES AND DISTRICTS, 1914, 1915, AND 1916.

	1914	1915	1916
Seattle.....	\$418.46	\$443.72	\$461.42
Tacoma.....	431.57	434.22	437.35
Spokane.....	424.03	444.92	463.50
Southwestern section, not including Tacoma or Seattle.....	405.93	424.80	424.89
Northwest section, not including Tacoma or Seattle.....	416.82	418.19	435.78
Eastern section, not including Spokane.....	428.94	442.06	453.55

The report notes 660 safety committees in the plants of the State, comprising a membership of 2,070, and 20 school safety committees, with a membership of 123, and comments on the fact that while industry is increasing and the number of workers is growing the per cent of accidents is continually growing less. During the year ending September 1, 1916, there were 278 (1.8 per cent) fatal and 14,840 (98.2 per cent) nonfatal accidents in industries classed as hazardous. Of the nonfatal, 22 were permanent total disabilities and 14,818 were temporary total disabilities. The number of days lost was 368,820, or an average of 24.40 each.

The report takes up briefly the hygienic health hazards encountered by the motion-picture operators, particularly the matter of excessive heat and lack of sanitary conveniences, such as running water, toilets, etc.; and also mentions the menace to health, although apparently not serious, caused by the dust produced in the manufacture of cement. A more lengthy discussion appears of the work and industrial and health hazards of the longshoremen, truckmen, and pier men, of which there are 3,457 ¹ in the 22 seaports of the State, 1,850 (53.5 per cent) being in Seattle. Specially noted are the intermittent or casual character of the employment, the severity of the work, and the great toll in the way of accidents. It is stated that during 1915 there were 389 longshoremen claims adjusted through the industrial insurance commission, aggregating \$32,616.47 to the men themselves or to their widows from the accident fund secured by percentage levy made upon the pay roll for the current year payable prior to January 15 of each year. This levy or contribution is 3 per cent for stevedoring and longshoring, and it appears from the record that in compensation paid this industry has been exceeded by only one other in the jurisdiction of the commission.

Twenty strikes and one lockout are listed, one of the strikes involving the longshoremen, which resulted in a wage advance of approximately 10 per cent.

After being in effect for about 16 months a survey was made in October, 1915, of the effect of the minimum wage in Washington. Almost 3,000 girls were personally interviewed. It was found that

¹ This is the membership of unions. It is not stated how many others there are who are not union men.

some claimed to have lost their positions on account of the law, that others claimed to have had their wages reduced, while others claimed to have had wages increased, the increase ranging from 50 cents to \$6 per week. Employees in general seem to have benefitted by the law, and the testimony of employers appears to be almost universally favorable.

The commissioner of labor recommends (1) legislation providing a method of collection of wages for workpeople in order to protect them from enormous and unnecessary expense in making the collections themselves; (2) the provision of ways and means for doing away with many of the baneful effects incident to strikes; (3) an amendment of the eight-hour public works' law to eliminate certain ambiguities; (4) an extension of the scope of the factory inspection law to include the logging industry and motion-picture theaters; (5) an increase in the salaries of inspectors; (6) a law providing for boiler inspection; (7) adequate provision for the gathering of labor statistics.

LABOR IN GREAT BRITAIN AFTER THE WAR.

One of the most important questions now engaging the attention of leaders of capital and labor in Great Britain is how to effect a complete adjustment of differences through mutual cooperation, so that after the war, labor, upon its release from military duty and from munition plants, may be reinstated in civil employments to the advantage of the worker and the profit of his employer. This desire for an after-the-war understanding between capital and labor resulted in a meeting at the Hotel Cecil, London, in January, which was presided over by the Right Hon. Frederick Huth Jackson, president of the Bankers' Institute, and at this meeting the following resolutions were adopted:¹

1. That the cordial and whole-hearted cooperation of employers and employed will be the most important element in the success of any scheme for dealing with the reinstatement of the men of the forces and munition workers in civil employment, and the general redistribution of labor after the war, and for handling any subsequent problem of unemployment or labor dislocation.

2. That no machinery now in existence can adequately deal with the reinstatement in civil employment of the present forces.

3. That power should be obtained from Parliament to set up without delay a central statutory board to regulate and supervise (a) the reinstatement in civil employment of the present forces; (b) the settlement in normal employment of civilian workers now in Government or controlled establishments; (c) any general redistribution of labor arising out of the war. Appropriate transfers of existing powers and duties will have to be made by the various Government departments to the central statutory board, so that complete authority shall be vested in the new board.

¹ A brief account of this meeting and the resolutions appeared in the National Labor Tribune, Pittsburgh, Pa., for Jan. 25, 1917, p. 1.

4. That not less than two-thirds of the members of this central statutory board should be representatives of employers and employed in equal numbers, such members being appointed by the Crown from associations of employers and from the trade-unions of the United Kingdom, respectively, the remaining members of the board to include representatives of Government departments, etc.

5. That where a trade-union, by arrangement with employers' associations, is capable of placing its members in employment it should be competent for the central board, if it deems it to be in the national interest, to delegate to the trade-union in question the responsibility of dealing with the reinstatement of its own members.

6. That local boards should be established wherever necessary to assist the central board. Such local boards to have the same proportionate representation as is provided for the central board.

7. All expenses properly incurred by the central and local boards should be paid out of moneys provided by Parliament.

CHINESE LABOR IN FRANCE.¹

In the *New Statesman* for January 13, 1917, there appears an article by a Chinese correspondent who was authorized by the French war office to visit certain government factories employing Chinese laborers. This article, which is entitled "Chinese labor in France," briefly describes the working and living conditions of 5,000 orientals engaged under contract to remain five years, with a provision, however, permitting the termination of the contract by the French commission for recruiting manual labor at the end of the third year and also a provision allowing the laborer to stay in France after the five-year limit with the right of free shipment if he desires later to return to his own country. It seems that the skilled among these laborers are paid 1.5 francs (29 cents) per day, the unskilled receiving 1.25 francs (24.1 cents). Food, lodging, and clothing are furnished in both instances. The unskilled also receive 35 francs (\$6.76) per month for the support of dependents in China and the skilled receive 40 francs (\$7.72) for this purpose. The rate of pay is based upon a 10-hour day. The contract under which these men work fixes the daily ration for each man as follows:

DAILY RATION ALLOWED CHINESE LABORERS UNDER CONTRACT IN GOVERNMENT FACTORIES IN FRANCE.

Article.	Grams.	Ounces.
Rice.....	100	3.53
Wheat.....	1,000	35.27
Meat.....	180	6.35
Vegetables.....	230	8.11
Tea.....	15	.53
Lard.....	15	.53
Salt.....	45	1.59

¹ Chinese labor in France. Article by "S. G. C., a Chinese correspondent," in the *New Statesman*, Jan. 13, 1917, p. 343. *Statesman Publishing Co.*, 10 Great Queen Street, Kingsway, London, W. C.

It is stated, however, that many workers received a more liberal allowance than that specified in the contract. Facilities for preparing the meals, the eating conditions and living conditions generally were found to be quite satisfactory, and the author states that "the French Government has given evidence of being sincerely concerned for the welfare of the Chinese." October 10 was the national fete of China, and the employees were granted a holiday, one plant paying its workers an extra 3 francs (57.9 cents), "to be spent in a trip to Paris."

Reference is made to the fact that the more intellectual Chinese in France have induced the Government to provide educational facilities for these laborers, including instruction in French and in the Chinese written language, with a view to further technical training which will be useful in the industrial development of their country.

IMMIGRATION IN DECEMBER, 1916.

The number of immigrant aliens admitted to the United States during the year 1916 was 355,767, as compared with 258,678 for the year 1915, an increase of 97,089. There has also been an increase from month to month during 7 of the 12 months. The figures for January, 1917, show a decrease of 19.9 per cent. These facts are brought out in the following table:

IMMIGRANT ALIENS ADMITTED INTO THE UNITED STATES IN SPECIFIED MONTHS,
1913 TO 1917.

Month.	1913	1914	1915	1916	1917	
					Number.	Per cent increase over preceding month.
January.....	46,441	44,708	15,481	17,293	24,745	19.9
February.....	59,156	46,873	13,873	24,740		
March.....	96,958	92,621	19,263	27,586		
April.....	136,371	119,885	24,532	30,560		
May.....	137,262	107,796	26,069	31,021		
June.....	176,261	71,728	22,598	30,764		
July.....	138,244	60,377	21,504	25,035		
August.....	126,180	37,706	21,949	29,975		
September.....	136,247	29,143	24,513	36,398		
October.....	134,140	30,416	25,450	37,056		
November.....	104,671	26,298	24,545	34,437		
December.....	95,387	20,944	18,901	30,902		

¹ Decrease.

Classified by races, the number of immigrant aliens admitted into and emigrant aliens departing from the United States during December, 1915 and 1916, was as follows:

IMMIGRANT ALIENS ADMITTED TO AND EMIGRANT ALIENS DEPARTING FROM THE UNITED STATES, DECEMBER, 1915 AND 1916.

Race.	Admitted.		Departed.	
	Decem-ber, 1915.	Decem-ber, 1916.	Decem-ber, 1915.	Decem-ber, 1916.
African (black).....	174	415	115	105
Armenian.....	43	130	16	17
Bohemian and Moravian.....	48	45	6	18
Bulgarian, Servian, Montenegrin.....	91	82	9	29
Chinese.....	210	181	309	277
Croatian and Slovenian.....	96	25	11	2
Cuban.....	108	107	177	263
Dalmatian, Bosnian, Herzegovinian.....	12	29	1	.....
Dutch and Flemish.....	665	454	56	76
East Indian.....	8	3	4	12
English.....	2,874	3,224	847	596
Finnish.....	644	646	61	119
French.....	1,215	2,459	207	196
German.....	989	1,087	76	66
Greek.....	521	3,028	881	153
Hebrew.....	1,230	2,276	18	14
Irish.....	1,149	1,653	168	152
Italian (north).....	191	392	674	549
Italian (south).....	941	5,024	4,097	1,493
Japanese.....	626	693	51	68
Korean.....	1	27	2	2
Lithuanian.....	39	68	.....	1
Magyar.....	115	49	28	3
Mexican.....	1,538	1,276	67	35
Pacific Islander.....	1	.....	.....	.....
Polish.....	477	437	13	9
Portuguese.....	1,076	1,513	430	105
Roumanian.....	90	41	27	12
Russian.....	550	489	292	291
Ruthenian (Russniak).....	71	97	2	2
Scandinavian.....	1,260	1,814	656	736
Scotch.....	1,030	1,481	185	183
Slovak.....	66	28	5	.....
Spanish.....	471	840	534	457
Spanish-American.....	84	187	36	52
Syrian.....	37	59	6	17
Turkish.....	9	59	3	1
Welsh.....	91	97	43	5
West Indian (except Cuban).....	39	66	73	80
Other peoples.....	21	321	19	24
Not specified.....	.....	.....	769	785
Total.....	18,901	30,902	10,974	7,005

IMMIGRATION DURING THE YEAR ENDING JUNE 30, 1916.

The annual report of the Commissioner General of Immigration for the fiscal year ending June 30, 1916, shows conditions very similar to those of the preceding year, even the number of aliens entering changing only slightly.

During 1914 1,218,480 aliens migrated to the United States. Immigration averaged 1,012,194 aliens per year for the decade 1905 to 1914. In 1915 it dropped to 326,700, and in 1916 to 298,826. Against this, 129,765 emigrant aliens left the United States in 1916. In 1914 33,041 aliens were rejected—2.3 per cent of the number who applied; the corresponding figures and percentages for 1915 were 24,111 and 5.3 and for the past year 18,867 and 4.9.

Of the 298,826 immigrant aliens admitted in the past year, 220,821 were between the ages of 14 and 44, 47,070 were under 14, and 30,935 were 45 or over. Of immigrant aliens 14 years or over admitted in 1916, 16.1 per cent were illiterate, compared with 13 per cent in 1915.

The decrease in immigration in 1915 afforded an opportunity for some experimental work in medical examinations. A record kept from October 4, 1914, to March 31, 1915, showed that of 31,275 aliens examined by the ordinary methods, 1,677, or 5.37 per cent were certified as having mental or physical defects. Largely because this ordinary examination could be made more deliberately, better results were secured than by a similar examination in 1914, in which year of heavy immigration it was possible to certify only 2.29 per cent of those examined. In an experiment during the later period, in which 11,974 aliens were subjected to an "intensive physical examination," 1,106, or 9.37 per cent, were certified for physical or mental defects.

Of 5,236 aliens found to be morally, mentally, or physically below standard and returned to the country of origin, 4,257 were debarred from entering, and 999 arrested and expelled. Of those debarred, 1,156 had grave physical defects; 397, grave mental defects; 1,703, physical or mental defects affecting ability to earn a living; and 1,001 were morally defective. Of those arrested and deported, 128 were physically, 320 mentally and 551 morally defective. In 1914, the last year of normal immigration, 14,582 aliens physically, mentally, or morally defective were returned to the country of origin, 12,494 being debarred, and 2,088 arrested and expelled.

Of all the aliens rejected during the last fiscal year, 10,383, or about 55 per cent, were rejected as likely to become public charges; 350 alien public charges were expelled under deportation proceedings and 1,081 were expelled because at the time of entry they were likely to become inmates of public institutions, making a total of 11,814.

There were 2,080 alien contract laborers debarred, as compared with 2,722 in 1915; and 116 such aliens were arrested and deported, compared with 65 in 1915. The war in European countries has, of course, interfered with the migration of aliens under contract, and in the past two years most contract laborers have come from Canada and Mexico.

During the nine years, 1908 to 1916, 20,441 aliens have come to the continent from insular United States, of whom 14,285 came from Hawaii, 5,454 from Porto Rico, and 702 from the Philippines; 2,492 came in 1916.

The report points out the necessity for excluding aliens on economic grounds, warns against the dangers of a threatened large oriental immigration, and recommends remedial legislation; discusses the difficulties of the bureau in dealing with ineligible aliens

who enter as bona fide seamen, the detection of smuggling and surreptitious entry, the so-called "immigrant fund," new construction work for service buildings, and the employment work of the Division of Information. The last subject is dealt with in a special article in the present number of the MONTHLY REVIEW (pp. 369 to 371). The report concludes with a discussion of the Burnett bill, recently enacted as a law. (See pages 487 and 488 for a brief account of this law.)

Of the statistical tables appended to the report, three are reproduced here. These show the net increase or decrease of population by arrival and departure of aliens for the fiscal years 1915 and 1916, by months; net increase or decrease of population by arrival and departure of aliens in the fiscal year 1916, by races or peoples, and occupation of aliens admitted and departed during the year.

NET INCREASE OR DECREASE OF POPULATION BY ARRIVAL AND DEPARTURE OF ALIENS, FISCAL YEARS ENDING JUNE 30, 1915 AND 1916, BY MONTHS.

Year and month.	Admitted.			Departed.			Increase (+) or decrease (-).
	Immigrant aliens.	Nonimmigrant aliens.	Total.	Emigrant aliens.	Nonemigrant aliens.	Total.	
1915.							
July.....	60,377	11,638	72,015	28,601	26,284	54,885	+17,130
August.....	37,706	13,525	51,231	30,307	23,805	54,112	- 2,881
September.....	29,143	15,481	44,624	18,212	16,546	34,757	+ 9,867
October.....	30,416	14,825	45,241	20,046	19,364	39,410	+ 5,831
November.....	26,298	9,027	35,325	23,100	17,648	40,748	- 5,423
December.....	20,944	6,514	27,458	23,821	18,704	42,525	-15,067
January.....	15,481	5,203	20,684	17,238	14,318	31,556	-10,872
February.....	13,873	4,831	18,704	7,086	7,102	14,188	+ 4,516
March.....	19,263	7,072	26,335	7,755	7,412	15,167	+11,168
April.....	24,532	7,233	31,765	8,331	9,339	17,670	+14,095
May.....	26,069	6,294	32,363	8,747	8,877	17,624	+14,739
June.....	22,598	5,901	28,499	10,830	10,702	21,532	+ 6,967
Total.....	326,700	107,544	434,244	204,074	180,100	384,174	+50,070
1916.							
July.....	21,504	5,593	27,097	9,861	6,154	16,015	+11,082
August.....	21,949	5,464	27,413	29,293	12,444	41,737	-14,324
September.....	24,513	6,583	31,096	22,156	10,905	33,061	- 1,965
October.....	25,450	5,765	31,215	13,887	12,451	26,338	+ 4,877
November.....	24,545	4,752	29,297	14,483	11,522	26,005	+ 3,292
December.....	18,901	4,272	23,173	10,974	12,769	23,743	- 570
January.....	17,293	4,015	21,308	5,915	8,090	14,005	+ 7,303
February.....	24,740	5,504	30,244	4,085	6,789	10,874	+19,370
March.....	27,586	6,099	33,685	3,485	6,409	9,894	+23,791
April.....	30,560	6,439	36,999	4,082	6,774	10,856	+26,143
May.....	31,021	6,904	37,925	5,233	7,984	13,217	+24,708
June.....	30,764	6,532	37,296	6,361	8,751	15,112	+22,184
Total.....	298,826	67,922	366,748	129,765	111,042	240,807	+125,941

NET INCREASE OR DECREASE OF POPULATION BY ARRIVAL AND DEPARTURE OF ALIENS, FISCAL YEAR ENDING JUNE 30, 1916, BY RACES OR PEOPLES.

Race or people.	Admitted.			Departed.			Increase (+) or decrease (-).
	Immigrant aliens.	Nonimmigrant aliens.	Total.	Emigrant aliens.	Nonimmigrant aliens.	Total.	
African (black).....	4,576	2,474	7,050	1,684	1,570	3,254	+ 3,796
Armenian.....	964	116	1,080	659	52	711	+ 369
Bohemian and Moravian (Czech).....	642	55	697	42	37	79	+ 618
Bulgarian, Servian, and Montenegrin.....	3,146	265	3,411	290	329	619	+ 2,792
Chinese.....	2,239	1,022	3,261	2,148	2,002	4,150	- 889
Croatian and Slavonian.....	791	39	830	76	65	141	+ 689
Cuban.....	3,442	4,266	7,708	1,454	5,899	7,353	+ 355
Dalmatian, Bosnian, and Herzegovinian.....	114	9	123	4	6	10	+ 113
Dutch and Flemish.....	6,443	1,279	7,722	742	2,137	2,879	+ 4,843
East Indian.....	80	48	128	91	100	191	- 63
English.....	36,168	14,782	50,950	7,826	35,483	43,309	+ 7,641
Finnish.....	5,649	487	6,136	543	707	1,250	+ 4,886
French.....	19,518	2,697	22,215	2,297	3,383	5,680	+ 16,535
German.....	11,555	1,954	13,509	873	1,989	2,862	+ 10,647
Greek.....	26,792	863	27,655	4,855	1,360	6,215	+ 21,440
Hebrew.....	15,108	643	15,751	199	515	714	+ 15,037
Irish.....	20,636	2,697	23,333	1,851	4,080	5,931	+ 17,402
Italian (north).....	4,905	820	5,725	4,020	1,507	5,527	+ 198
Italian (south).....	33,909	2,561	36,470	68,981	11,904	80,885	- 44,415
Japanese.....	8,711	3,996	12,707	780	8,638	9,418	+ 3,289
Korean.....	154	7	161	29	19	48	+ 113
Lithuanian.....	599	19	618	28	7	35	+ 583
Magyar.....	981	78	1,059	394	92	486	+ 573
Mexican.....	17,198	7,963	25,161	559	2,317	2,876	+ 22,285
Pacific Islander.....	5	13	18	3	54	57	- 39
Polish.....	4,502	162	4,664	358	139	497	+ 4,167
Portuguese.....	12,208	700	12,908	2,185	1,353	3,538	+ 9,370
Roumanian.....	953	49	1,002	138	52	190	+ 812
Russian.....	4,858	443	5,301	4,716	1,380	6,096	- 795
Ruthenian (Russniak).....	1,365	36	1,401	17	32	49	+ 1,352
Scandinavian (Norwegians, Danes, and Swedes).....	19,172	5,259	24,431	3,954	8,956	12,910	+ 11,521
Scotch.....	13,515	3,634	17,149	2,096	6,092	8,188	+ 8,961
Slovak.....	577	20	597	74	33	107	+ 490
Spanish.....	9,259	3,991	13,250	2,792	3,629	6,421	+ 6,829
Spanish American.....	1,881	2,248	4,129	516	2,431	2,947	+ 1,182
Syrian.....	676	328	1,004	120	293	413	+ 591
Turkish.....	216	59	275	41	94	135	+ 140
Welsh.....	983	252	1,235	214	341	555	+ 680
West Indian (except Cuban).....	948	1,426	2,374	603	1,736	2,339	+ 35
Other peoples ¹	3,388	162	3,550	769	229	998	+ 2,552
Not specified ¹				10,744		10,744	- 10,744
Total.....	298,826	67,922	366,748	129,765	111,042	240,807	+125,941
Admitted in and departed from Philippine Islands.....	4,122	7,374	11,496	850	9,051	9,901	+ 1,595

¹ Departed via Canadian border. Reported by Canadian Government as Canadians.

OCCUPATIONS OF ALIENS ADMITTED AND DEPARTED, FISCAL YEAR ENDING JUNE 30, 1916.

Occupation.	Admitted.		Departed.	
	Immigrant aliens.	Nonimmigrant aliens.	Emigrant aliens.	Nonimmigrant aliens.
PROFESSIONAL.				
Actors.....	632	674	181	754
Architects.....	189	109	46	173
Clergy.....	837	601	237	826
Editors.....	170	99	31	150
Electricians.....	638	117	74	174
Engineers (professional).....	1,808	1,227	335	1,897
Lawyers.....	260	444	40	586
Literary and scientific persons.....	262	206	48	237
Musicians.....	695	277	130	278
Officials (Government).....	327	549	112	593
Physicians.....	326	529	116	707
Sculptors and artists.....	311	135	67	166
Teachers.....	1,640	630	216	899
Other professional.....	1,700	902	464	1,385
Total.....	9,795	6,499	2,097	8,819

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OCCUPATIONS OF ALIENS ADMITTED AND DEPARTED, FISCAL YEAR ENDING JUNE 30, 1916—Concluded.

Occupation.	Admitted.		Departed.	
	Immigrant aliens.	Nonimmigrant aliens.	Emigrant aliens.	Nonemigrant aliens.
SKILLED.				
Bakers.....	759	138	141	182
Barbers and hairdressers.....	934	194	819	252
Blacksmiths.....	921	122	162	189
Bookbinders.....	72	4	16	14
Brewers.....	19	10	2	12
Butchers.....	588	72	76	131
Cabinetmakers.....	241	21	37	45
Carpenters and joiners.....	4,824	681	811	1,235
Cigarette makers.....	19	2	2	.....
Cigar makers.....	774	752	785	887
Cigar packers.....	30	15	9	2
Clerks and accountants.....	8,369	2,369	1,638	3,847
Dressmakers.....	1,610	222	227	231
Engineers (locomotive, marine, and stationary).....	791	568	100	456
Furriers and fur workers.....	199	12	3	13
Gardeners.....	424	232	118	298
Hat and cap makers.....	127	12	17	11
Iron and steel workers.....	822	132	90	198
Jewelers.....	194	48	22	58
Locksmiths.....	67	13	2	4
Machinists.....	1,892	391	422	777
Mariners.....	3,088	1,768	516	1,807
Masons.....	1,496	185	250	256
Mechanics (not specified).....	685	303	3,315	1,098
Metal workers (other than iron, steel, and tin).....	395	48	43	73
Millers.....	124	15	8	39
Milliners.....	388	69	30	69
Miners.....	2,407	506	1,189	779
Painters and glaziers.....	1,047	203	306	324
Pattern makers.....	33	10	5	14
Photographers.....	194	61	22	68
Plasterers.....	276	48	40	81
Plumbers.....	411	72	103	127
Printers.....	459	87	164	129
Saddlers and harness makers.....	114	24	28	34
Seamstresses.....	1,577	140	80	107
Shoemakers.....	1,280	167	754	217
Stokers.....	795	310	166	326
Stonecutters.....	326	37	55	70
Tailors.....	2,799	261	370	293
Tanners and curriers.....	68	8	8	19
Textile workers (not specified).....	228	36	403	284
Tinners.....	195	25	33	42
Tobacco workers.....	34	24	14	9
Upholsterers.....	74	8	5	14
Watch and clock makers.....	125	19	29	22
Weavers and spinners.....	770	84	77	119
Wheelwrights.....	19	1	1	5
Woodworkers (not specified).....	194	15	6	28
Other skilled.....	2,251	673	355	774
Total.....	45,528	11,217	13,874	16,069
MISCELLANEOUS.				
Agents.....	1,538	1,109	181	1,334
Bankers.....	235	333	54	565
Draymen, hackmen, and teamsters.....	429	81	249	163
Farm laborers.....	26,250	2,891	1,810	1,794
Farmers.....	6,840	2,273	2,460	5,272
Fishermen.....	741	227	117	287
Hotel keepers.....	243	219	38	257
Laborers.....	55,816	6,012	78,599	18,838
Manufacturers.....	315	294	48	560
Merchants and dealers.....	7,017	6,512	2,790	9,356
Servants.....	29,258	3,962	8,001	5,772
Other miscellaneous.....	10,055	4,042	2,058	6,158
Total.....	138,737	27,955	96,405	50,356
No occupation (including women and children).....	104,766	22,251	17,389	35,798
Grand total.....	298,826	67,922	129,765	111,042

THE NEW LAW TO REGULATE THE IMMIGRATION OF ALIENS.

On February 1 and February 5, 1917, the House and Senate, respectively, passed over the President's veto "An act to regulate the immigration of aliens to, and the residence of aliens in, the United States." This act is to take effect on May 1, 1917, and retains many of the features of the existing act of February 20, 1907, as amended by the act of March 26, 1910. The features of the existing law regarded as of essential interest from the labor standpoint are reproduced in Bulletin No. 148 of the Bulletin of the Bureau of Labor Statistics, pages 2414-2416.

Besides the features of the old laws carried over, important changes and additions were made, largely for the purpose of stricter enforcement and a clearer understanding of the provisions of the act, the results of several court decisions being incorporated into the new law. The head tax of \$4 under the present law is changed to \$8 under the new, but is not payable on behalf of children under 16 years of age who accompany their father or their mother. The provisions as to excluded classes are strengthened and extended to certain classes of persons of mental, physical, or moral inferiority not included in the old act. The provisions as to contract labor are made more rigid, though professional nurses are added to the professional classes exempted from the operation of the contract labor provisions. On the other hand, the former provision admitting persons employed strictly as personal or domestic servants has been narrowed to include only persons employed as domestic servants. A new exclusion is one based on a literacy test, its provisions being expressed in the following language:

All aliens over sixteen years of age, physically capable of reading, who can not read the English language, or some other language or dialect, including Hebrew or Yiddish: *Provided*, That any admissible alien, or any alien heretofore or hereafter legally admitted, or any citizen of the United States, may bring in or send for his father or grandfather over fifty-five years of age, his wife, his mother, his grandmother, or his unmarried or widowed daughter, if otherwise admissible, whether such relative can read or not; and such relative shall be permitted to enter. That for the purpose of ascertaining whether aliens can read the immigrant inspectors shall be furnished with slips of uniform size, prepared under the direction of the Secretary of Labor, each containing not less than thirty nor more than forty words in ordinary use, printed in plainly legible type in some one of the various languages or dialects of immigrants. Each alien may designate the particular language or dialect in which he desires the examination to be made, and shall be required to read the words printed on the slip in such language or dialect. That the following classes of persons shall be exempt from the operation of the illiteracy test, to wit: All aliens who shall prove to the satisfaction of the proper immigration officer or to the Secretary of Labor that they are seeking admission to the United States to avoid religious persecution in the country of their last permanent residence, whether such persecution be evidenced by overt acts or by laws or governmental regulations that discriminate against the alien or the race to which he belongs because of his religious faith; all aliens who have been lawfully admitted to the United States and who have resided therein continuously for five years and who return to the United States within six months from the date of their departure therefrom; all aliens in transit through the United States; all aliens who have been lawfully admitted to the United States and who later shall go in transit from one part of the United States to another through foreign contiguous

territory: *Provided*, That nothing in this act shall exclude, if otherwise admissible, persons convicted, or who admit the commission, or who teach or advocate the commission, of an offense purely political.

New sections are added with the intent of regulating the landing of alien seamen in United States ports, so as to give reasonable assurance that violation and evasion of the immigration law do not result therefrom. Heavier penalties are assessed against transportation companies which violate the provisions of the act, and provision is also made for the reimbursement by them of the fare of certain inadmissible classes of persons brought over by such companies. Provisions are made for placing on board of vessels, foreign as well as domestic, bringing aliens to United States ports, surgeons of the Public Health Service, and matrons of the Immigration Service, the object being to afford more thorough observation and examination of aliens with a view to detecting diseases and physical and mental defects.

Many other changes were made of more or less importance, largely of an administrative nature. The committee reporting the bill concludes its report by saying:

The committee has labored earnestly in its efforts to keep out the most undesirable of those coming to our shores and at the same time encourage the immigration of those who come to make their homes with us, to promote the moral and material prosperity of our country, and to become permanent citizens of our great Government.

OFFICIAL PUBLICATIONS RELATING TO LABOR.

UNITED STATES.

CALIFORNIA.—*Report of the Industrial Accident Commission, from July 1, 1915, to June 30, 1916. San Francisco, 1916. 152 pp. Illustrated.*

A digest of this report will be found on pages 407 to 410 of this issue of the MONTHLY REVIEW.

—*Report of the Social Insurance Commission, January 25, 1917, 339 pp.*

INDIANA.—*State Board of Education, Educational Bulletin No. 19, Report of the Evansville Survey for Vocational Education, 510 pp. Educational Bulletin No. 20, Report of the Jefferson County Survey for Vocational Education, 86 pp. Educational Bulletin No. 21, Report of the Indianapolis Survey for Vocational Education, Vol. I, 400 pp. Indianapolis, January 1, 1917.*

A summary of these reports appears on pages 469 to 476 of this issue of the MONTHLY REVIEW.

MASSACHUSETTS.—*Bureau of Statistics. Report of a special inquiry relative to aged and dependent persons in Massachusetts, 1915. Boston, 1916, 107 pp.*

A summary of this report appears on pages 430 to 433 of this issue of the MONTHLY REVIEW.

—*Report of the Chief of the Massachusetts District Police for the year ending October 31, 1916, including the detective, building inspection, and boiler inspection departments. Public Document No. 32, Boston, 1917, 116 pp.*

The detective department includes the work of fire investigation. During the year 1915, 8,030 fires were reported, of which 6,639, or 82.7 per cent, representing 71 per cent of the total fire loss, occurred in manufacturing establishments, mercantile establishments, and places of habitation. More than 60 per cent of the fires entailing 27 per cent of the loss occurred in the latter group. Nearly 45 per cent were due to

carelessness. In the building inspection department 14 prosecutions were made and \$253 in fines imposed in two cases, one for failure to comply with written orders and the other for operating a motion-picture machine without a license. A total of 7,360 inspections were made by the boiler inspectors and the number of applicants examined for licenses was 5,290, of which number 2,603, or 49.2 per cent, were successful. There were 18 prosecutions for violation of law and \$215 in fines were imposed. The district police force turned over to the Commonwealth during the year ending November 30, 1916, a total of \$44,310.50 collected in fees and as proceeds from the sale of forfeited liquors and confiscated weapons.

- *State Board of Labor and Industries. Rules and Regulations Relating to Safe and Sanitary Working Conditions in Foundries and the Employment of Women in Core Rooms. Bulletin No. 10, Boston, 1916. 8 leaves.*
- *Rule Regarding Use of Salamanders. Industrial Bulletin No. 8, Boston, 1916. 3 pp.*
- *Rules and Regulations Governing Compressed Air Work. Industrial Bulletin No. 7, Boston, 1916. 12 pp.*
- *Rules and Regulations Suggested for Safety in the Manufacture of Benzene Derivatives and Explosives. Bulletin No. 11, Boston, 1916. 10 pp.*
- *Rules and Regulations Suggested for the Prevention of Anthrax. Industrial Bulletin No. 6, Boston, 1916. 10 pp.*
- *Safety Rules and Regulations and Machinery Standards. Industrial Bulletin No. 9, Boston, 1916. 6 leaves.*
- *Suggestions to Employers and Employees for the Protection of Eyes and the Prevention of Accidents. Industrial Bulletin No. 5, Boston, 1916. 10 pp.*

MASSACHUSETTS (BOSTON).—*City Planning Board. A summary of the market situation in Boston. Preliminary report of the Market Advisory Committee, June, 1915. (Doc. 118, 1915.) Boston, 1916. 175 pp.*

Shows sources of Boston's perishable foods, methods of distribution, prices from producer to consumer, effects of cold storage, transportation charges, chances of reducing cost through greater efficiency, and a comparison of prices of commodities in various cities; also gives an extended bibliography relating to marketing, cost of living and food prices, municipal slaughterhouses and meat supply, transportation and distribution of food products, and cooperation as related to food products.

MISSOURI.—*Missouri Children's Code Commission. A Complete Revision of the Laws for the Welfare of Missouri Children. [Jefferson City] January 1, 1917. 168 pp.*

This pamphlet was prepared by the Missouri Children's Code Commission appointed by the governor to revise and codify the laws relating to children for submission to the forty-ninth general assembly.

NEVADA.—*Biennial Report of State Inspector of Mines, 1915-16. Carson City, 1917. 77 pp.*

Reports the largest number of men ever engaged in the mining industry in the State, the total being 5,800, which, however, it is stated, does not represent a fair average of the number employed throughout the year, since reports are required to be filed on June 1 and many mines increase their forces after that date, while others began work subsequent to June 1 and consequently filed no report. The inspector refers to the difficulty of enforcing safety practices in mines on account of the amount of territory to be covered and the fact that there is but one deputy to aid in the work of inspection. He gives a list of fatalities indicating a total of 211 from April 1, 1909, to November 30, 1916, 29 of these occurring during the year ending November 30, 1916. Taking 5,800 as the number employed in 1916, this represents a fatality rate of 5 accidents per 1,000 employed. The value of the gold, silver, copper, lead, and zinc mined in Nevada by 799 producers in 1915 was \$34,551,436. The report lists 309 nonfatal accidents occurring during the year ending November 30, 1916, which caused the injured person to stop work for 15 or more days.

OHIO.—*Industrial Commission of Ohio. Boiler Inspection Laws and Rules Formulated by the Board of Boiler Rules, edition of January, 1916. Columbus, 1916. 149 pp.*

——— *Division of Boiler Inspection. Ohio Boiler Inspection Laws and Rules. Official Guide. Supplement No. 2 to 1916 edition. 25 pp.*

——— *Law and Rules Formulated by the Board of Boiler Rules. Official Guide. Supplement No. 3 to 1916 edition. 3 pp.*

PENNSYLVANIA.—*Department of Labor and Industry. Industrial Board. Safety Standards of the Industrial Board. Plants Manufacturing or Using Explosives. Vol. I, No. 19, operative on and after April 1, 1917. 26 pp.*

——— *Department of Public Instruction. State Board of Education. The Annual Report of the Industrial Division of the Bureau of Vocational Education for the school year ending July 3, 1916. Harrisburg, 1917. 69 pp.*

This report covers industrial and household arts, manual training and domestic science courses, continuation schools, music and drawing, industrial education surveys and statistics pertaining thereto. There were on July 3, 1916, 351 continuation schools, which during the year were attended by 35,628 children, at a total cost to the school districts of \$150,085.66. The total amount of State aid due the districts for continuation schools was \$76,860.31. Thirty-nine school districts in 24 counties maintained 25 household art schools or departments, and 32 industrial schools or departments during the year. In these schools 11,837 students were enrolled. The total expenditure for household art schools and industrial schools was \$17,038,343, and the amount of money received by the districts for these schools was \$49,799.74.

SOUTH CAROLINA.—*Eighth Annual Report of the Commissioner of Agriculture, Commerce and Industries. Labor Division. Factory Inspection and Manufacturing Statistics. 1916. Columbia, 1917. 148 pp.*

Notes the fact that during the first 7 months of the year, following the passage of the law raising the child labor limit to 14 years of age, there was a decrease of 900 children under 14 years of age employed in the cotton mills, which constitute the chief industry of the State, paying 62.9 per cent of the wages received by employees in all industries. A statement of all industries in the State shows 81,845 as the average number employed, 7,481 being under 16 years of age. Of this latter number, 6,879 were employed in the textile mills, the wages received by them amounting to \$16,646.53, or 9.5 per cent, of the total wages paid to textile operatives. The report recommends that the working age limit for children be raised to 16 years.

UTAH.—*Report of the Employers' Liability and Workmen's Compensation Commission to the Twelfth Session of the Legislature of Utah, together with draft of the bill submitted. Salt Lake City, 1916. 62 pp.*

A summary of this report appears on pages 421 to 424 of this issue of the MONTHLY REVIEW.

VERMONT.—*Second Biennial Report of the Factory Inspector for the period ending Aug. 1, 1916. Report of the Industrial Accident Board for the year ending June 30, 1916. Rutland, 1916. 30 pp.*

A summary of these reports appears on pages 424 and 425 of this issue of the MONTHLY REVIEW.

WASHINGTON (SEATTLE).—*Board of School Directors. Vocational guidance report. 1913-1916. (Pub. No. 2) Seattle, Nov., 1916. 120 pp.*

This report gives the final results of a vocational research undertaken in September, 1913. A former report published in January, 1915, related to Seattle children leaving school to enter industry and made certain recommendations for increasing the efficiency of the school system and decreasing the social and economic waste incident to the employment of children 14 to 18 years of age. This report discusses the aims, methods, and organization of vocational guidance, sets forth curriculum suggestions, and presents a report of the vocational and attendance department for 1915-16, giving information relative to pupils leaving school, labor permits, and employments entered by pupils receiving such permits.

WASHINGTON (SEATTLE).—*Bureau of Labor Statistics and Factory Inspection. Tenth Biennial Report, 1915-16. Olympia, 1916. 312 pp. Illustrated.*

A summary of this report appears on pages 476 to 479 of this issue of the MONTHLY REVIEW.

UNITED STATES.—*Department of the Interior. Bureau of Mines. Quarry Accidents in the United States during the calendar year 1915. Technical Paper 165. Washington, 1916. 77 pp.*

There were 148 fatalities in 1915 as compared with 180 in 1914, the fatality rate in the former year being 1.80 and in 1914, 2.64 per 1,000 300-day workers. The annual average number of accidents for five years is 182 with a fatality rate of 2.19. There were 16 permanent total disabilities, 507 partial disabilities, and 1,365 other injuries involving a time loss of more than 14 days. The number of slight injuries wherein time lost was 1 to 14 days was 7,783. The largest number of fatalities in 1915 was 58 in limestone quarries, the fatality rate being 1.70. Most of the accidents, 30.41 per cent, were caused by falls or slides of rock or overburden.

— — — *Suggested Safety Rules for Installing and Using Electrical Equipment in Bituminous Coal Mines, by J. H. Clark and C. M. Means. Technical Paper 138. Washington, 1916. 36 pp.*

These rules cover service and underground stations, machines and apparatus, circuits and conductors, and miscellaneous equipment, besides a number of general rules, and are drawn to accomplish one or more of the following basic measures for safeguarding the use of electricity in mines: (1) Remove the contributory cause; (2) remove from the vicinity of electrical apparatus all elements susceptible to the influence of electricity; (3) keep the electric current where it belongs, if possible. If not, limit the area of its activity by protective devices; (4) use a large factor of safety in the selection, installation, and inspection of equipment; (5) have full control of the movements of electrically driven machines.

— *Department of Labor. Bureau of Immigration. Annual Report of the Commissioner General of Immigration to the Secretary of Labor, fiscal year ended June 30, 1916. 231 pp.*

A summary of this report appears on pages 482 to 486 of this issue of the MONTHLY REVIEW.

— *Public Health Service. State Laws and Regulations Pertaining to Public Health, adopted during the year 1915. Washington, 1916. 612 pp.*

FOREIGN COUNTRIES.

FRANCE.—*Association Française pour la Lutte Contre le Chômage. Circulaires du Secrétariat Général. Nos. 37 and 38. Paris, December, 1916.*

No. 37 is entirely devoted to a discussion of the question of regulating vocational training and apprenticeship in such a manner that the number of young persons about to enter industrial pursuits may more nearly coincide with the demands for labor in each occupation.

This measure seems extremely important in consideration of the fact that in some industries the demand for labor is constantly increasing, while in others there is a gradual decrease which may be considered due to industrial evolution. In the one case wages may be increased beyond the normal and in the other a large number of workers remain unemployed. If insurance against unemployment becomes a subsidiary function of the Government, whether through subsidized labor exchanges or otherwise, all possible means should be taken to reduce unemployment to a minimum.

The establishment of a methodical adjustment depends not alone upon the institution of commissions with advisory powers alone but upon accurate and up-to-date information relative to the prospective demand for labor in the various occupations. In order to develop and determine the child's aptness for a particular branch of industrial labor, preparation for apprenticeship should begin in the primary grades of the school.

Between this preapprenticeship period and apprenticeship proper is a hiatus during which the child is directed and advised on industrial-education lines in order that he may make a judicious choice of an occupation.

GREAT BRITAIN.—*Factory and Workshop Acts, 1901 to 1916. Form prescribed by the Secretary of State for notice of accident or dangerous occurrence, to be sent (immediately on the accident becoming reportable) to the district inspector of factories. London, 1916.*

This is a collection of forms, as indicated in the title, each form containing instructions on the back.

— *Home Office. Mines and Quarries: General report, with statistics, for 1915. Part I.—Divisional statistics and reports. London, 1916. 68 pp.*

Statistical tables show the number of persons employed, by sex and ages, in operating coal mines and metalliferous mines, and in quarries more than 20 feet deep, during the year 1915: Output; deaths from accidents, with causes, and accident death rates. Detailed reports for each district and each class of mines follow.

NETHERLANDS.—*Centraal Bureau voor de Statistiek. Bijdragen tot de Statistiek van Nederland. Beknopt overzicht van den omvang der Vakbeweging op 1 Januari 1916. No. 232. The Hague, 1916. 34, XVIII pp.*

This report gives statistics of labor organizations, including national associations, federations of union laborers, and other principal associations of laborers other than trade unions.

In 1915, 65.57 per cent of the membership of labor unions belonged to unions affiliated with some one of the five national confederations; in 1916 this per cent had increased to 67.72. The total membership of all labor unions has increased since 1910 from 143,850 to 251,667, and the number of members of unions affiliated with national organizations increased from 62,351 to 170,418, or from 43.34 per cent in 1910 to 67.72 in 1916.

— *Centraal Bureau voor de Statistiek. Jaarcijfers voor het Koninkrijk der Nederlanden. Koloniën, 1914. The Hague, 1916. XXVI, 174 pp.*

This publication contains statistics relative to the Dutch East and West Indian colonies, and covers such subjects as are usually found in statistical yearbooks.

— *Maandcijfers en Andere Periodieke Opgaven betreffende Nederland en de Koloniën. No. 31. The Hague, 1916. 127 pp.*

A compilation of vital, industrial, financial, commercial, etc., statistics for the year 1915, by months, for Netherlands and the Dutch colonies.

NORWAY.—*Riksforsikringsanstalten. Fiskerforsikringen for Aaret 1915. Norges Officielle Statistik. VI. 88. Ulykkesforsikringen for fiskere og fangstmænd samt for de i smaaskibsfartbeskjæftigede personer. Christiania, 1916. 15*, 43 pp.*

A report of accidents occurring during the year 1915, covered by the accident insurance law relating to fishermen and crews of small boats, with comparable data, by years, 1909 to 1914.

The number of persons insured in 1915 was 110,122, and the amount of premiums paid for insurance was 133,297 kr. (\$35,724). The 236 accidents reported for the year resulted in 103 deaths and 133 cases of invalidity, a total of 236, of which payment of insurance was approved in 101 fatal cases and 110 nonfatal cases, amounting to 114,427 kr. (\$30,666). Of the 110 nonfatal cases, 75 were noncompensable. Premium collected from the insured persons from 1909 to 1915, inclusive, amounted to 943,418 kr. (\$252,836), and the amount of insurance paid out during these years was 1,092,598 kr. (\$292,816). A deficit developed in 1909 and continued in each year to and including 1914. An excess of premiums over insurance paid is shown for the operations in 1915.

— *Riksforsikringsanstalten. Industristatistik for Aaret 1914. Norges Officielle Statistik. VI. 87. Christiania, 1916. 39*, 90 pp.*

The statistics published by the Royal Workmen's Insurance Office are limited, because accidents in other establishments than those subject to the law of workmen's insurance are not reported.

The present volume reports accident statistics in forestry for the period 1910 to 1914, and agriculture and industry for the period 1897 to 1914.

ONTARIO.—*Workmen's Compensation Act, with amendments of 1915 and 1916, with regulations of board, synopsis, etc.* Toronto, 1916. 122 pp.

— *Workmen's Compensation Board. Report for 1915.* Toronto, 1916. 46 pp.

PORTUGAL.—*Ministerio do Fomento, Direcção Geral do Comercio e Industria. Boletim do Trabalho Industrial. No. 100.* Lisbon, 1914. 57 pp.

Report for the years 1913 and 1914 of the industrial division of the department of public works relative to industrial establishments registered: Number of inspections made of establishments employing women and young persons; employment of women at nightwork; accidents; labor conflicts.

— *Boletim do Trabalho Industrial. No. 101.* Lisbon, 1916. 64 pp.

Relates to spinning and weaving of linen and other vegetable fiber.

QUEENSLAND.—*Thirty-first Report of the Registrar of Friendly Societies and Building Societies.* Brisbane, 1916. 30 pp.

This report contains a list of societies to September 30, 1916, and financial and numerical statements for the year 1915. On December 31, 1915, the total membership of benefit friendly societies was 52,082, of which number 48,494, or 93.1 per cent, were financial, that is, entitled to benefit. The financial membership showed a decrease for the first time since 1902. The surplus funds on hand at the end of the year amounted to £50,591 (\$246,201.10) compared with £60,767 (\$295,722.61) at the end of 1914. The amount distributed in direct benefits to members and their dependents in 1915 was £122,117 (\$594,282.38), which was an advance of £10,097 (\$49,137.05) for the year and of £50,094 (\$243,782.45) for the decennial period ending with 1915. The total benefits for the 10 years amounted to £951,334 (\$4,629,666.91), which included sick benefits, funeral and special donations, medical attendance and medicine, 60 per cent of the total received being applied to these purposes in 1915. Payments on account of sickness amounted to £42,767 (\$208,125.61) or £5,071 (\$24,678.02) more than in 1914. Mortality benefits rose from £15,206 (\$74,000) to £19,887 (\$96,780.09) while medical benefits remained practically stationary. The cost of management, including general expenditures other than actual benefits, amounted to £30,731 (\$149,552.41), or at the rate of 13s. 1d. (\$3.18) per financial member on the average number during the year 1915. In proportion to the total received, the per cent of management expenditure was 15.1, being the highest since 1908.

SCOTLAND.—*Registrar General for Scotland. Sixty-first Annual Report, 1915.* Glasgow, 1916. CXXVI, 149 pp. Map.

Report of vital statistics in Scotland, 1915, with three appendixes. A special study is added to show the effect of war conditions on birth and marriage rates.

SWEDEN.—*Socialstyrelsen. Sociala Meddelanden. Statistiska Meddelanden. Series F. Band X. 12.* Stockholm, 1916. 116 pp. Index to Nos. 7 to 12, 1916, IV pp.

Labor market, November; Sugar regulations and employment in sugar works; Prices of commodities and cost of living; Wages during the war; Market prices of live stock, etc.

UNOFFICIAL PUBLICATIONS RELATING TO LABOR.

AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS. *First annual meeting. Proceedings, Detroit, June 12, 1916.* 60 pp.

Contains minutes of organization of the association, and papers followed by discussions on the following subjects: The scope of medical and surgical supervision, by C. G. Farnum, M. D.; The educational function of industrial physicians, by J. W. Schereschewsky, M. D.; The family doctor, by S. S. Marquis, M. D.; and Health insurance and the prevention of sickness, by John B. Andrews, Ph. D.

AMERICAN FEDERATION OF LABOR—OHIO BRANCH. *The Ohio plan of workmen's compensation. A reprint of recent correspondence between Emile E. Watson, Actuary, Ohio State Fund, and Robert T. Caldwell, Chairman, Kentucky Compensation Board.* 1916. 24 pp.

— OKLAHOMA BRANCH. *Constitution, 1916.* 24 pp.

— — *Official proceedings of the thirteenth annual convention, Aug., 1916.* 54 pp.

AMERICAN FLINT GLASS WORKERS' UNION. *Quarterly report of national secretary-treasurer. Dec. 1, 1915, to Feb. 29, 1916.* 56 pp.

Contains, in connection with other statistics, an interesting table showing by occupations the membership and employment conditions for 137 local unions throughout the country, February 29, 1916. There were 9,449 members, of whom 8,206 were employed at their trade, 857 employed outside their trade, and 386, or 4 per cent, were unemployed. Of the unemployed 110, or nearly one-third, were cutters belonging to one local union.

AMERICAN HOME ECONOMICS ASSOCIATION. *Thrift by household accounting and weekly cash record forms. Baltimore, Md., 1916.* 34 pp. Price 15c.

AMERICAN MEDICAL ASSOCIATION. *Council on health and public instruction. Social insurance series. Pamphlets Nos. 1-5.*

A review of these pamphlets will appear in the next number of the MONTHLY REVIEW.

BALTIMORE AND OHIO RAILROAD COMPANY. *Relief department. Twenty-eighth annual report, fiscal year ended June 30, 1916.* 7 pp.

The membership of the relief feature of this department June 30, 1916, was 55,542, an increase of 4,951 over the preceding year; the total income for the fiscal year was \$1,624,844.19, of which \$1,382,611.67 was contributed by members, \$189,927.08 by the Baltimore & Ohio Railroad Co. and the Baltimore & Ohio Chicago Terminal Railroad Co., the balance being from interest and other sources. Benefits paid during the fiscal year amounted to \$1,531,681.46. The average amount paid for 20,282 disablements from injuries received in the discharge of duty was \$17.02; for 23,282 disablements from sickness and other causes, \$24.61; for 104 deaths from accidents on duty, \$1,600.96; for 485 deaths from other causes, \$816.02; for 27,232 cases involving surgical expense, \$1.66; and for 71 cases in which artificial limbs were furnished members without charge, \$83.47.

A savings feature with 9,233 depositors June 30, 1916, and a pension feature with 1,062 on the roll are also connected with the relief department.

BROWN, ROME G. *The right to refuse to sell. Reprinted from Yale Law Journal, Jan., 1916.* 12 pp.

A review of the decision in the case of The Great Atlantic and Pacific Tea Co. v. Cream of Wheat Co. (Nov. 10, 1915). The plaintiff had sold goods of the defendant at cut rate prices. The defendant in order to maintain its retail prices refused to make further sales to plaintiff. The latter then brought suit for an injunction to compel defendant to sell to plaintiff at prices formerly maintained between them. The decision was in favor of the defendant. This decision was the first under the so-called "Clayton Act" of October 15, 1914, whereby the provisions of the former antitrust acts were amended and extended.

CHARITY ORGANIZATION SOCIETY, NEW YORK. *Annual report, thirty-fourth year. Oct. 1, 1915-Sept. 30, 1916. Charity Organization Bulletin No. 158, Jan. 10, 1917.* 105 pp.

COHEN, JULIUS H. *A league to enforce industrial peace. Advance sheets from proceedings of the Academy of Political Science, New Series, No. 1, March, 1917. New York, 1916.* 40 pp.

This address, made at the annual meeting of the Academy of Political Science in New York, November 23, 1916, was reviewed on page 24 of the MONTHLY REVIEW for January, 1917.

COHEN, JULIUS H. *The revised protocol in the dress and waist industry. Reprinted from the Annals of the American Academy of Political and Social Science, Jan., 1917. 14 pp.*

COOPERATIVE WHOLESALE SOCIETY, LIMITED. *Annual, 1917. Manchester. 332 pp.*

This society in December, 1915, had 2,535,972 members and a total capital of £10,782,418 (\$52,472,637). In addition to the complete statistics of the operations of the society this report contains articles on "Capital and labor after the war" and "War in its effect upon women."

DREW, WALTER. *The strike, the lockout, and the neutral citizen. Address before the Get-together Club, Hartford, Conn., Nov. 13, 1916. 21 pp.*

EIGHT-HOUR LAW CASE (THE ADAMSON LAW). *Francis M. Wilson, U. S. Attorney for the Western District of Missouri, appellant, v. Alexander New and Henry C. Ferris, as receivers of the Missouri, Oklahoma & Gulf Railway Co., appellees. Supreme Court of the United States, No. 797, October term, 1916. Motion by appellant to advance, 4 pp.; brief for the United States, 89 pp.; summary of appellant's arguments, 96 pp.; supplemental memorandum for appellant, 4 pp.; brief for appellees, 120 pp.; Appendix A to brief for appellees (the methods of reckoning compensation of train-service employees), 112 pp.; supplemental brief for appellees, 17 pp.*

FISHER, IRVING. *The need for health insurance. Presidential address delivered at the tenth annual meeting of the American Association for Labor Legislation, in joint session with the American Economic Association, the American Sociological Society, and the American Statistical Association, Columbus, Ohio, Dec. 27, 1916. Reprint from The American Labor Legislation Review, Vol. VII, No. 1, 1917. 16 pp.*

The author sums up his address with the statement that "health insurance is needed in the United States in order to tide the workers over the grave emergencies incident to illness as well as in order to reduce illness itself, lengthen life, abate poverty, improve working power, raise the wage level, and diminish the causes of industrial discontent." He declares that "there is no other measure now before the public which equals the power of health insurance toward social regeneration."

JEWISH AGRICULTURAL AND INDUSTRIAL AID SOCIETY. *Annual report, New York, 1916. 60 pp.*

The financial activities of this society extend to 36 States and to Canada. Its main object is the fostering and encouragement of agriculture among Jewish immigrants. It conducts a farm loan department which in 17 years has made 4,100 loans aggregating \$2,330,092; and a farm labor bureau which in 9 years secured positions for 6,998 men. Various educational activities and cooperative enterprises are conducted by the society. The report gives an account of agricultural and economic conditions in various sections of the country.

KAHN, MORRIS H. *Medical and sociological problems of department stores and their relation to tuberculosis. Reprinted from the Medical Record, Aug. 21, 1915. William Wood & Co., New York. 11 pp.*

LAMBERT, ALEXANDER. *Two papers, Medical organization under health insurance; Organization of medical benefits and services under the proposed sickness (health) insurance system. 1916. 62 pp.*

The first named of these papers was read at the annual meeting of the American Association for Labor Legislation, Columbus, Ohio, December 28, 1916, the other at the conference on social insurance, Washington, D. C., December 7, 1916.

LANDSORGANISATIONEN I SVERGE. *Berättelse, 1915. Stockholm, 1916. 152 pp.*

Report of the operations of the confederated labor unions of Sweden for 1915. Among the topics treated are, Strikes and lockouts; Movement of wages; Collective agreements in force; Report of employment offices, 1915; Unemployment and unions; and Confederated Unions and membership, 1915.

MINNEAPOLIS CIVIC AND COMMERCE ASSOCIATION. *Bureau of municipal research. Preliminary report on study of increases of cost of food. 1916. 11 typewritten pages, 1 large table.*

NEW YORK CHARITIES DIRECTORY. *Twenty-sixth edition. A reference book of social service in or available for greater New York. Charity Organization Society. New York, 1917. 458 pp.*

PARKINSON, THOMAS I. *Constitutional aspects of compulsory arbitration of industrial disputes on public utilities. Advance sheets from proceedings of the Academy of Political Science, New Series, No. 1, March, 1917. New York, 1916. 39 pp.*

This address made at the annual meeting of the Academy of Political Science in New York, in November, 1916, is reviewed on page 22 of the MONTHLY REVIEW for January, 1917.

PHILADELPHIA ELECTRIC BENEFICIAL ASSOCIATION. *Ninth annual report. 1915. 32 pp.*

This organization had 2,442 members December 31, 1915. An especially interesting feature of this report is an analysis by months of the 575 accidents to employees during 1915. These accidents are classified according to the person responsible (as to preventability only), causes, time lost, and part of body affected.

RETAIL DRY GOODS ASSOCIATION. *Committee on industrial hygiene. Report by Morris H. Kahn. Reprinted from the Medical Record, Nov. 25, 1916. William Wood & Co., New York, 1916. 10 pp.*

Treats of medical supervision of employees and the promotion of health and prevention of disease through physical examinations, sanitary measures, education, provision of nurses and hospitals, and recreation features.

RISLER, GEORGES. *Housing of the working classes in France. Cheap up-to-date dwellings in 1915. 86 pp.*

This is a monograph prepared for the Panama-Pacific International Exposition, showing the development of cheap dwellings in France under the law of April, 1908, known as the Ribot law, and subsequent laws, enabling workmen, with the aid of the State, to purchase comfortable homes by annuities in from 5 to 25 years.

SAN FRANCISCO—CHAMBER OF COMMERCE. *Law and order in San Francisco—a beginning. 1916. 41 pp.*

An account of the longshoremen's strike on the Pacific coast in June, 1916, and of the organization by San Francisco merchants of a law and order committee to deal with the industrial conditions growing out of the strike. The enactment on November 7, 1916, of an ordinance prohibiting picketing was due to the work of this committee. The pamphlet is profusely illustrated with views of San Francisco and is unique in typographical form.

SHERMAN, P. T. *Dangerous tendencies in the American social insurance movement. An address delivered before the 138th meeting of the Insurance Society of New York, Nov. 21, 1916. 14 pp.*

SOCIETY OF MEDICAL JURISPRUDENCE. *Report of the committee on industrial insurance. New York, Feb. 2, 1917. 4 pp.*

SOUSEK, JAKOB. *Der rechtliche charakter der Arbeitskonflikte. Vienna, 1914. 123 pp.*

Sets forth the legal and economic aspects of labor conflicts in Austria. Discusses relation of the labor market and labor disputes, organizations of employers and employees, militant methods of both parties, legal and economic consequences of labor conflicts, attitude of the State to labor conflicts in general and to the organization of Government employees in particular, and finally, points out ways and means for the more peaceful settlement of labor disputes.

SOCIOLOGY CLUB, SCHENECTADY, N. Y. *The Unemployment Problem, Cause and Cure, by "Analyticus." 1916. 170 pp.*

Four lectures on the following subjects: Theory of unemployment; The rights of the unemployed; Wage slavery—cause and cure; Capitalism and the wage system.

VERBAND SCHWEIZ. *Konsumvereine. Taschen-Kalender. 1917. Basel, 1916. 192 pp.*

A pocket calendar published by the Federation of Swiss Cooperative Stores, giving valuable information on the operation of such stores and statistics relating thereto.

SERIES OF BULLETINS PUBLISHED BY THE BUREAU OF LABOR STATISTICS.

The publication of the annual and special reports and of the bimonthly bulletin has been discontinued, and since July, 1912, a bulletin has been published at irregular intervals. Each number contains matter devoted to one of a series of general subjects. These bulletins are numbered consecutively in each series and also carry a consecutive whole number, beginning with No. 101. A list of the series, together with the individual bulletins falling under each, is given below. A list of the reports and bulletins of the Bureau issued prior to July 1, 1912, will be furnished on application.

Wholesale Prices.

- No. 1. Wholesale prices, 1890 to 1912. (Bul. 114.)
- No. 2. Wholesale prices, 1890 to 1913. (Bul. 149.)
- No. 3. Index numbers of wholesale prices in the United States and foreign countries. (Bul. 173.)
- No. 4. Wholesale prices, 1890 to 1914. (Bul. 181.)
- No. 5. Wholesale prices, 1890 to 1915. (Bul. 200.)

Retail Prices and Cost of Living.

- No. 1. Retail prices, 1890 to 1911: Part I. (Bul. 105: Part I.)
Retail prices, 1890 to 1911: Part II—General tables. (Bul. 105: Part II.)
- No. 2. Retail prices, 1890 to June, 1912: Part I. (Bul. 106: Part I.)
Retail prices, 1890 to June, 1912: Part II—General tables. (Bul. 106: Part II.)
- No. 3. Retail prices, 1890 to August, 1912. (Bul. 108.)
- No. 4. Retail prices, 1890 to October, 1912. (Bul. 110.)
- No. 5. Retail prices, 1890 to December, 1912. (Bul. 113.)
- No. 6. Retail prices, 1890 to February, 1913. (Bul. 115.)
- No. 7. Sugar prices, from refiner to consumer. (Bul. 121.)
- No. 8. Retail prices, 1890 to April, 1913. (Bul. 125.)
- No. 9. Wheat and flour prices, from farmer to consumer. (Bul. 130.)
- No. 10. Retail prices, 1890 to June, 1913. (Bul. 132.)
- No. 11. Retail prices, 1890 to August, 1913. (Bul. 136.)
- No. 12. Retail prices, 1890 to October, 1913. (Bul. 138.)
- No. 13. Retail prices, 1890 to December, 1913. (Bul. 140.)
- No. 14. Retail prices, 1907 to December, 1914. (Bul. 156.)
- No. 15. Butter prices, from producer to consumer. (Bul. 164.)
- No. 16. Retail prices, 1907 to June, 1915. (Bul. 184.)
- No. 17. Retail prices, 1907 to December, 1915. (Bul. 197.)

Wages and Hours of Labor.

- No. 1. Wages and hours of labor in the cotton, woolen, and silk industries, 1890 to 1912. (Bul. 128.)
- No. 2. Wages and hours of labor in the lumber, millwork, and furniture industries, 1890 to 1912. (Bul. 129.)
- No. 3. Union scale of wages and hours of labor, 1907 to 1912. (Bul. 131.)
- No. 4. Wages and hours of labor in the boot and shoe and hosiery and knit goods industries, 1890 to 1912. (Bul. 134.)
- No. 5. Wages and hours of labor in the cigar and clothing industries, 1911 and 1912. (Bul. 135.)
- No. 6. Wages and hours of labor in the building and repairing of steam railroad cars, 1890 to 1912. (Bul. 137.)
- No. 7. Union scale of wages and hours of labor, May 15, 1913. (Bul. 143.)
- No. 8. Wages and regularity of employment in the dress and waist industry, New York City. (Bul. 146.)
- No. 9. Wages and regularity of employment in the cloak, suit, and skirt industry. (Bul. 147.)
- No. 10. Wages and hours of labor in the cotton, woolen, and silk industries, 1907 to 1913. (Bul. 150.)
- No. 11. Wages and hours of labor in the iron and steel industry in the United States, 1907 to 1912. (Bul. 151.)
- No. 12. Wages and hours of labor in the lumber, millwork, and furniture industries, 1907 to 1913. (Bul. 153.)
- No. 13. Wages and hours of labor in the boot and shoe and hosiery and underwear industries, 1907 to 1913. (Bul. 154.)
- No. 14. Wages and hours of labor in the clothing and cigar industries, 1911 to 1913. (Bul. 161.)
- No. 15. Wages and hours of labor in the building and repairing of steam railroad cars, 1907 to 1913. (Bul. 163.)
- No. 16. Wages and hours of labor in the iron and steel industry, 1907 to 1913. (Bul. 168.)
- No. 17. Union scale of wages and hours of labor, May 1, 1914. (Bul. 171.)
- No. 18. Wages and hours of labor in the hosiery and underwear industry, 1907 to 1914. (Bul. 177.)
- No. 19. Wages and hours of labor in the boot and shoe industry, 1907 to 1914. (Bul. 178.)
- No. 20. Wages and hours of labor in the men's clothing industry, 1911 to 1914. (Bul. 187.)
- No. 21. Wages and hours of labor in the cotton, woolen, and silk industries, 1907 to 1914. (Bul. 190.)
- No. 22. Union scale of wages and hours of labor, May 1, 1915. (Bul. 194.)
- No. 23. Street railway employment in the United States. (Bul. 204.) [In press.]

Employment and Unemployment.

- No. 1. Proceedings of the American Association of Public Employment Offices. (Bul. 192.)
- No. 2. Unemployment in the United States. (Bul. 195.)
- No. 3. Proceedings of Employment Managers' Conference. (Bul. 196.)
- No. 4. Proceedings of the Conference of Employment Managers' Association of Boston. (Bul. 202.)
- No. 5. The British system of labor exchanges. (Bul. 206.)

For material relating to these subjects, but not included in this series, see Miscellaneous series, Nos. 1, 10, 12 (Buls. 109, 172, 183).

Women in Industry.

- No. 1. Hours, earnings, and duration of employment of wage-earning women in selected industries in the District of Columbia. (Bul. 116.)
- No. 2. Working hours of women in the pea canneries of Wisconsin. (Bul. 119.)
- No. 3. Employment of women in power laundries in Milwaukee. (Bul. 122.)
- No. 4. Hours, earnings, and conditions of labor of women in Indiana mercantile establishments and garment factories. (Bul. 160.)
- No. 5. Summary of the report on condition of woman and child wage earners in the United States. (Bul. 175.)
- No. 6. Effect of minimum-wage determinations in Oregon. (Bul. 176.)
- No. 7. The boot and shoe industry in Massachusetts as a vocation for women. (Bul. 180.)
- No. 8. Unemployment among women in department and other retail stores of Boston, Mass. (Bul. 182.)
- No. 9. Dressmaking as a trade for women. (Bul. 193.)

For material relating to this subject, but not included in this series, see Miscellaneous series, Nos. 2, 3, 8 (Buls. 117, 118, 167).

Workmen's Insurance and Compensation (including laws relating thereto).

- No. 1. Care of tuberculous wage earners in Germany. (Bul. 101.)
- No. 2. British National Insurance Act, 1911. (Bul. 102.)
- No. 3. Sickness and accident insurance law of Switzerland. (Bul. 103.)
- No. 4. Law relating to insurance of salaried employees in Germany. (Bul. 107.)
- No. 5. Workmen's compensation laws of the United States and foreign countries. (Bul. 126.)
- No. 6. Compensation for accidents to employees of the United States. (Bul. 155.)
- No. 7. Compensation legislation of 1914 and 1915. (Bul. 185.)
- No. 8. Compensation laws of the United States and foreign countries. (Bul. 203.) [In press.]
- No. 9. Proceedings of the Third Annual Meeting of the International Association of Industrial Accident Boards and Commissions. (Bul. 210.) [In press.]
- No. 10. Proceedings of the Conference on Social Insurance called by the International Association of Industrial Accident Boards and Commissions, December 5 to 9, 1916. Washington, D. C. (Bul. 212.) [In press.]

Industrial Accidents and Hygiene.

- No. 1. Lead poisoning in potteries, tile works, and porcelain enameled sanitary ware factories. (Bul. 104.)
- No. 2. Hygiene of the painters' trade. (Bul. 120.)
- No. 3. Dangers to workers from dusts and fumes, and methods of protection. (Bul. 127.)
- No. 4. Lead poisoning in the smelting and refining of lead. (Bul. 141.)
- No. 5. Industrial accident statistics. (Bul. 157.)
- No. 6. Lead poisoning in the manufacture of storage batteries. (Bul. 165.)
- No. 7. Industrial poisons used in the rubber industry. (Bul. 179.)
- No. 8. Report of British departmental committee on danger in the use of lead in the painting of buildings. (Bul. 188.)
- No. 9. Report of committee on statistics and compensation insurance cost of the International Association of Industrial Accident Boards and Commissions. (Bul. 201.) [Limited edition.]
- No. 10. Anthrax as an occupational disease. (Bul. 205.)
- No. 11. Causes of death by occupation. (Bul. 207.) [In press.]
- No. 12. Hygiene of the printing trades. (Bul. 209.) [In press.]

Conciliation and Arbitration (including strikes and lockouts).

- No. 1. Conciliation and arbitration in the building trades of Greater New York. (Bul. 124.)
- No. 2. Report of the industrial council of the British Board of Trade on its inquiry into industrial agreements. (Bul. 133.)
- No. 3. Michigan copper district strike. (Bul. 139.)
- No. 4. Industrial court of the cloak, suit, and skirt industry of New York City. (Bul. 144.)
- No. 5. Conciliation, arbitration, and sanitation in the dress and waist industry of New York City. (Bul. 145.)
- No. 6. Collective bargaining in the anthracite coal industry. (Bul. 191.)
- No. 7. Collective agreements in the men's clothing industry. (Bul. 198.)

Labor Laws of the United States (including decisions of courts relating to labor).

- No. 1. Labor legislation of 1912. (Bul. 111.)
- No. 2. Decisions of courts and opinions affecting labor, 1912. (Bul. 112.)
- No. 3. Labor laws of the United States, with decisions of courts relating thereto. (Bul. 148.)
- No. 4. Decisions of courts and opinions affecting labor, 1913. (Bul. 152.)
- No. 5. Labor legislation of 1914. (Bul. 166.)
- No. 6. Decisions of courts affecting labor, 1914. (Bul. 169.)
- No. 7. Labor legislation of 1915. (Bul. 186.)
- No. 8. Decisions of courts affecting labor, 1915. (Bul. 189.)
- No. 9. Labor laws and their administration in the Pacific States. (Bul. 211.)
- No. 10. Labor legislation of 1916. (Bul. 213.) [In press.]

Foreign Labor Laws.

- No. 1. Administration of labor laws and factory inspection in European countries. (Bul. 142.)

Vocational Education.

- No. 1. Vocational education survey of Minneapolis. (Bul. 199.)

For material relating to this subject, but not included in this series, see Wages and hours of labor series, No. 9 (Bul. 147); Conciliation and arbitration series, No. 5 (Bul. 145); Miscellaneous series, Nos. 6, 7 (Buls. 159, 162).

Miscellaneous Series.

- No. 1. Statistics of unemployment and the work of employment offices in United States. (Bul. 109.)
- No. 2. Prohibition of nightwork of young persons. (Bul. 117.)
- No. 3. Ten-hour maximum working day for women and young persons. (Bul. 118.)
- No. 4. Employers' welfare work. (Bul. 123.)
- No. 5. Government aid to home owning and housing of working people in foreign countries. (Bul. 158.)
- No. 6. Short-unit courses for wage earners, and a factory school experiment. (Bul. 159.)
- No. 7. Vocational education survey of Richmond, Va. (Bul. 162.)
- No. 8. Minimum-wage legislation in the United States and foreign countries. (Bul. 167.)
- No. 9. Foreign food prices as affected by the war. (Bul. 170.)
- No. 10. Unemployment in New York City, N. Y. (Bul. 172.)
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